



Government of Nepal
Ministry of Forest and Environment
Department of Environment
Babarmahal, Kathmandu

Air quality status of Nepal 2016-2020

Volume VII

Bhaktapur air quality monitoring station



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1. Bhaktapur Air Quality Monitoring Station

- Address : Sallaghari, Bhaktapur, ward no: 1
- Location: 27.673762 latitude, 85.417528 longitude is possible with map
- Surrounding of the station
 - East:
 - West:
 - North:
 - South:
- Establish year: 2017 (2073)
- Brief introduction of the instruments installed in the station (should include-brief specification; number of instrument)
 1. PM instrument- GRIMM
 2. Met sensor luffth WS 700
 3. Data logging and data transmission and power backup system

2. Air quality status of Bhaktapur

2.1. Air quality status, 2017

Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP

The annual average of PM₁, PM_{2.5}, PM₁₀ and TSP for the Bhaktapur station was calculated as shown in the figure below.

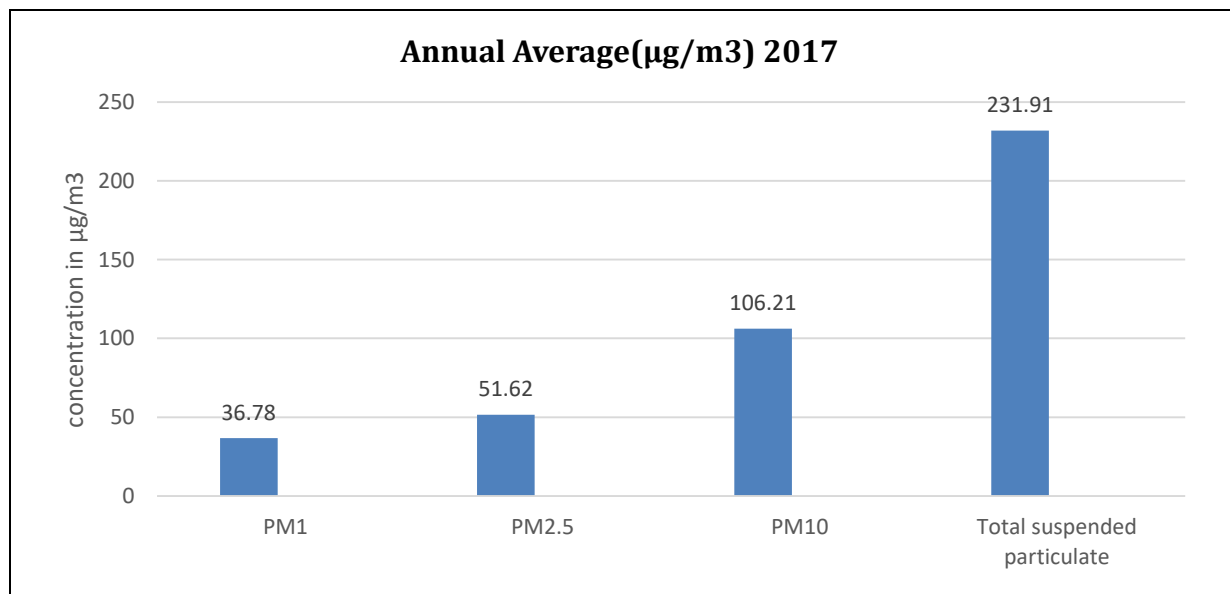


Figure 1: Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP in 2017

2.1.1. Temporal variation of PM₁

Annual average of PM₁

Annual PM₁ average for Bhaktapur Station was observed to be 36.78 $\mu\text{g}/\text{m}^3$ in 2017. Histogram of hourly average PM₁ is shown in the figure below.

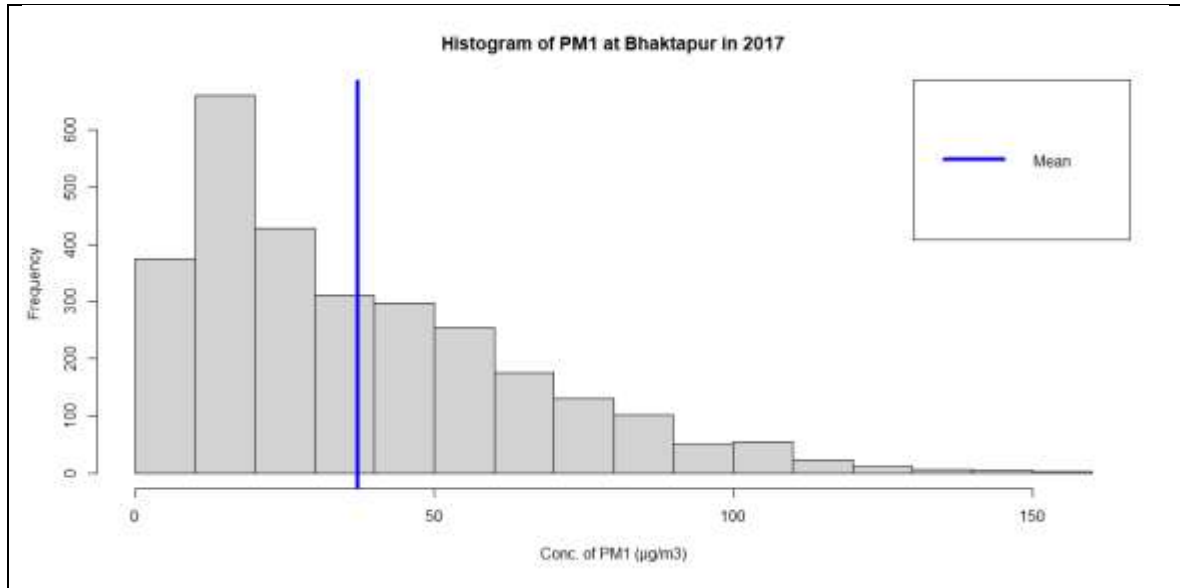


Figure 2 : Histogram for the ambient concentration of PM₁

Daily average of PM₁

Daily average concentration of PM₁ was found to be high during December and low during August.

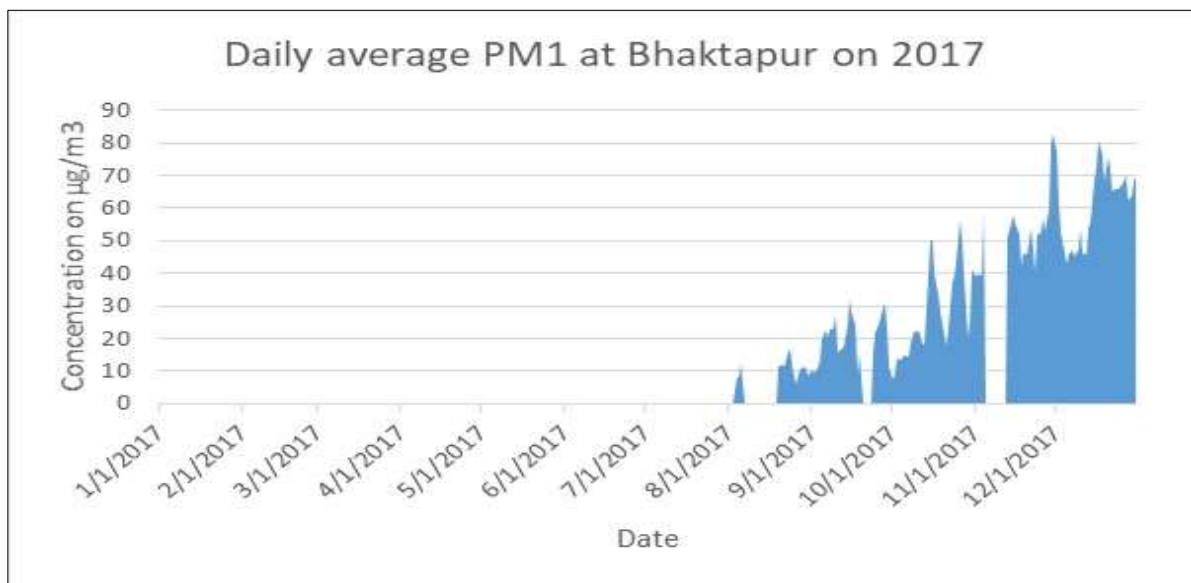


Figure 3: Daily average of PM₁

Monthly average of PM₁

The highest and the lowest concentration of PM₁ was found during December (58.87 $\mu\text{g}/\text{m}^3$) and August (10.79 $\mu\text{g}/\text{m}^3$) respectively.

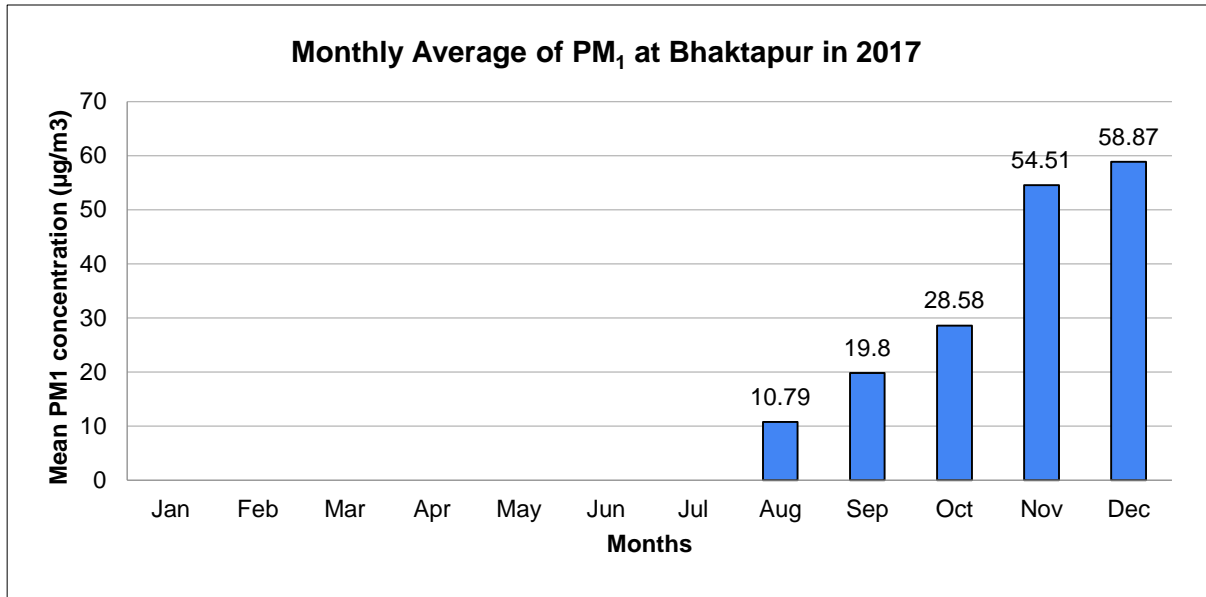


Figure 4: Monthly average of PM₁

Variation in concentration of PM₁ was found more in December and low in August.

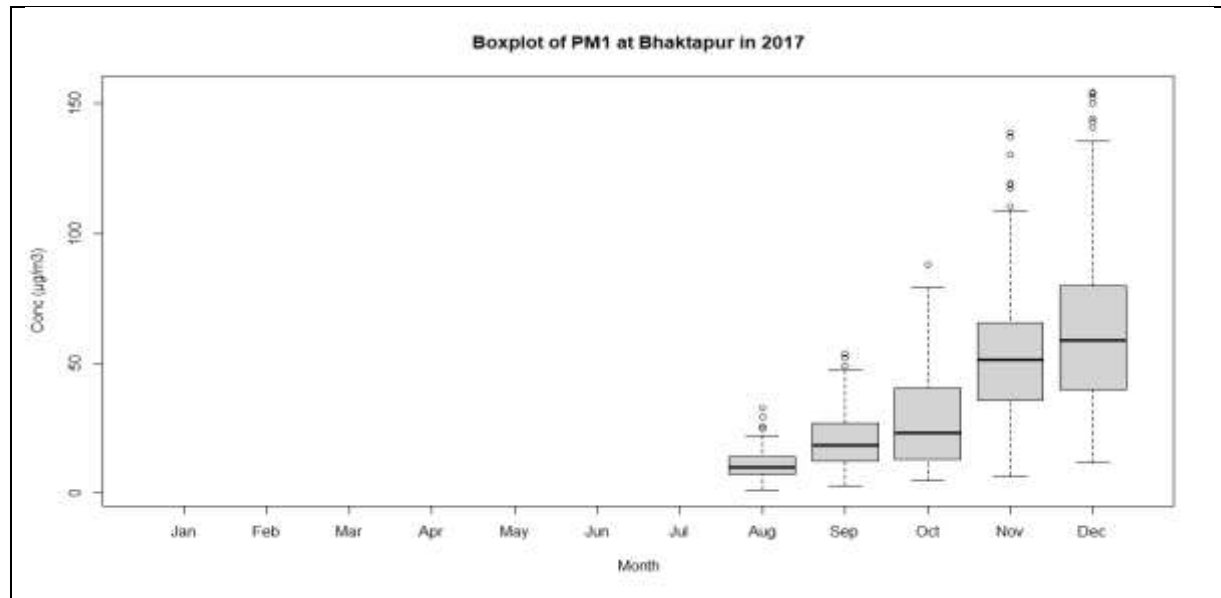


Figure 5: Box plot concentration of PM₁

Seasonal variation of PM₁

Since the year 2017 has only five months of available data, all seasons could not be illustrated in the graph. The figure below shows the data for post monsoon season only which has a concentration of 34.3 $\mu\text{g}/\text{m}^3$.

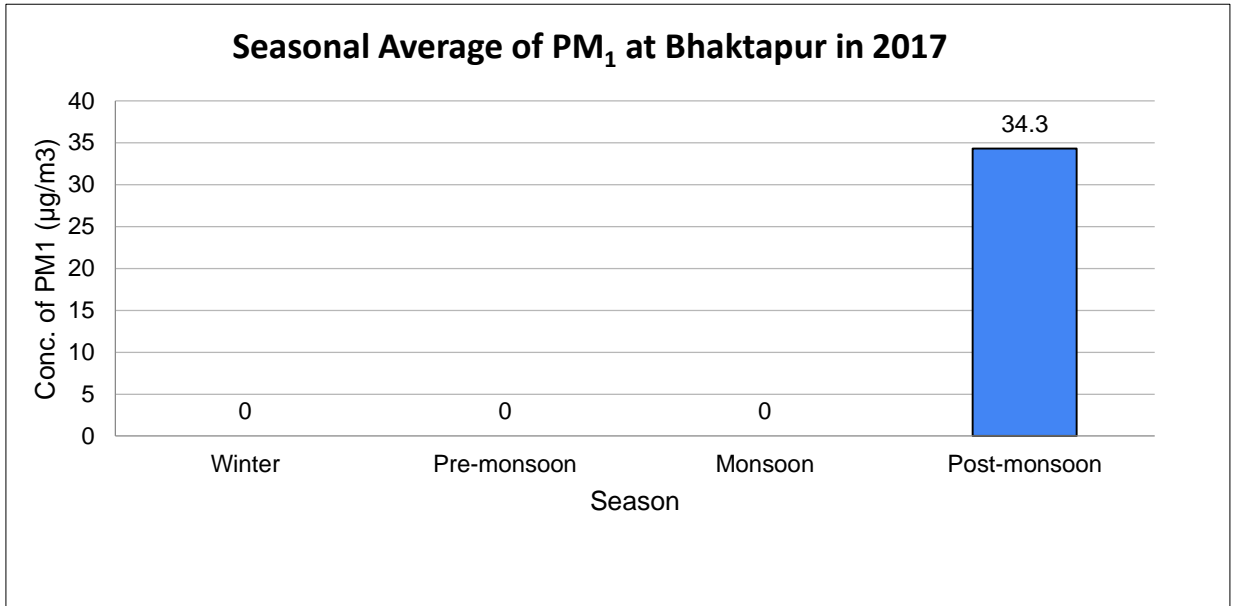


Figure 6: Seasonal variation of PM₁

Diurnal variation of average concentration of PM₁

The diurnal variation of average PM₁ concentration can be shown in the figure below. The variation in PM₁ concentration was high at around 7 to 8 am and low at 1 to 3 pm.

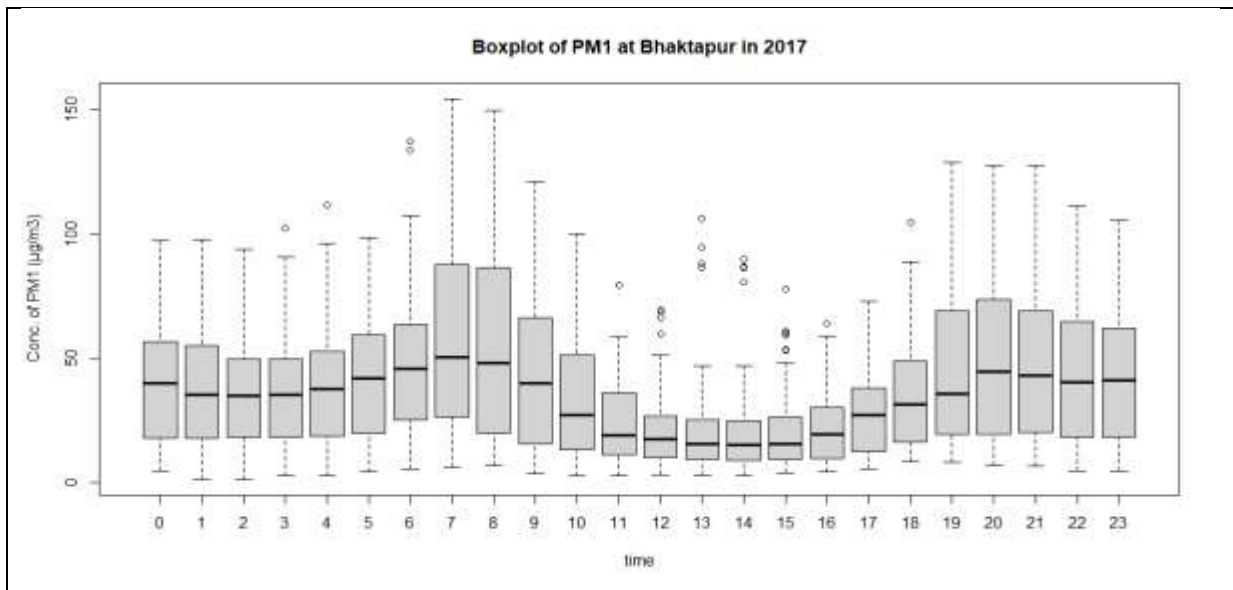


Figure 7: Diurnal variation of average PM₁ concentration

2.1.2. Temporal variation of PM_{2.5}

Annual average of PM_{2.5}

The annual average of PM_{2.5} for Bhaktapur Station was found to be 51.62 µg/m³ in 2017. Histogram of hourly average PM_{2.5} is shown in the figure below.

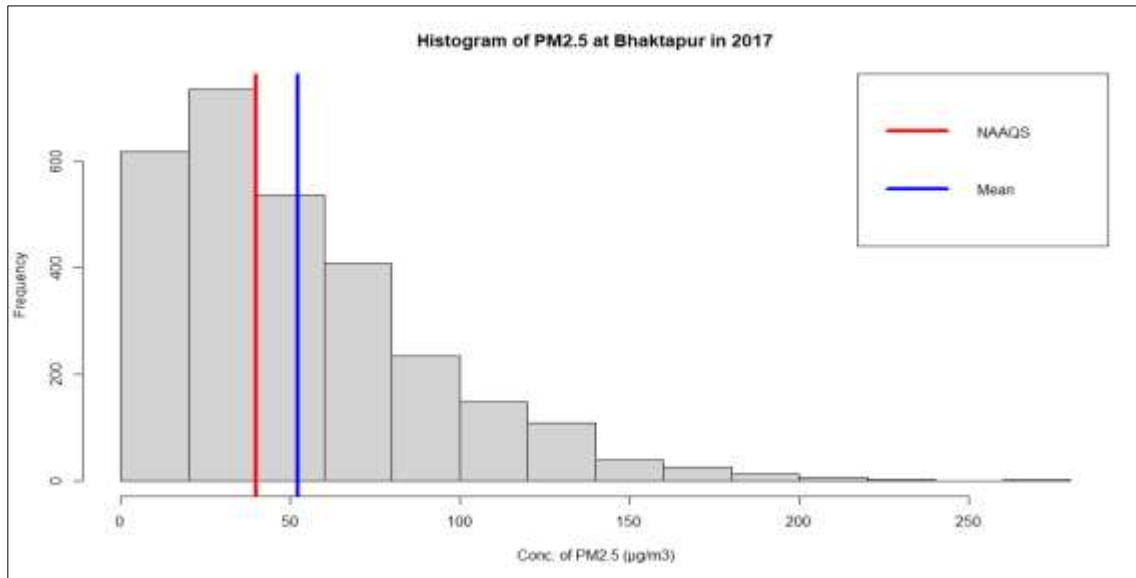


Figure 8 : Histogram for the ambient concentration of PM_{2.5}

Daily average of PM_{2.5}:

Daily average concentration of PM_{2.5} was found to be high during December and was found low during August.

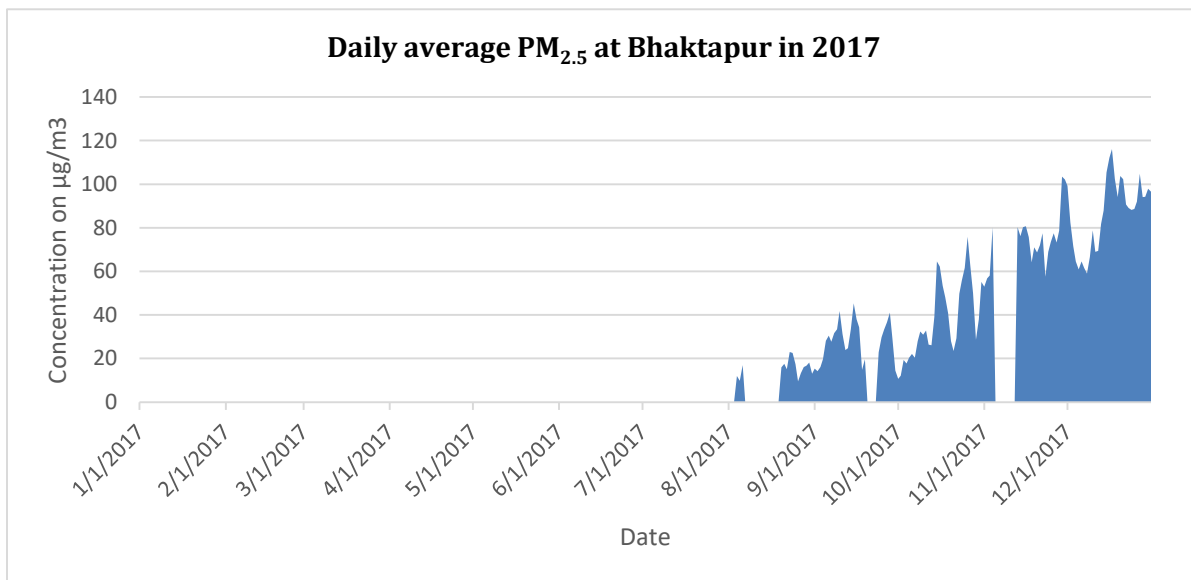


Figure 9: Daily average of PM_{2.5}

Monthly average of PM_{2.5}

The highest and the lowest concentration of PM_{2.5} was found during December (83.56 µg/m³) and August (15.77 µg/m³) respectively.

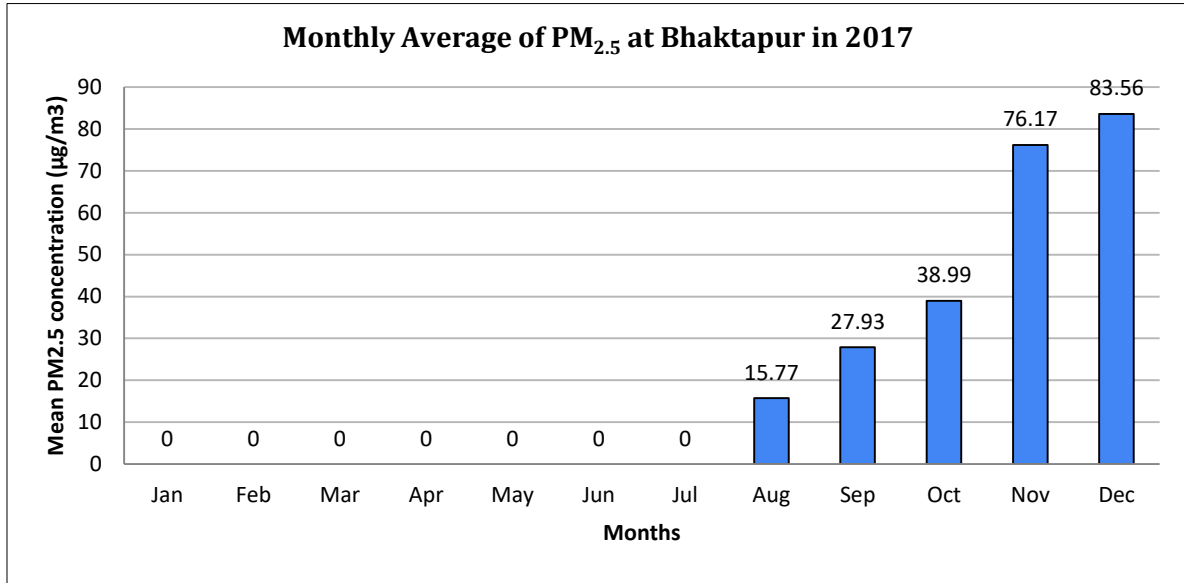


Figure 10: Monthly average of PM_{2.5}

Variation in concentration of PM_{2.5} was found more during December and low during August and September.

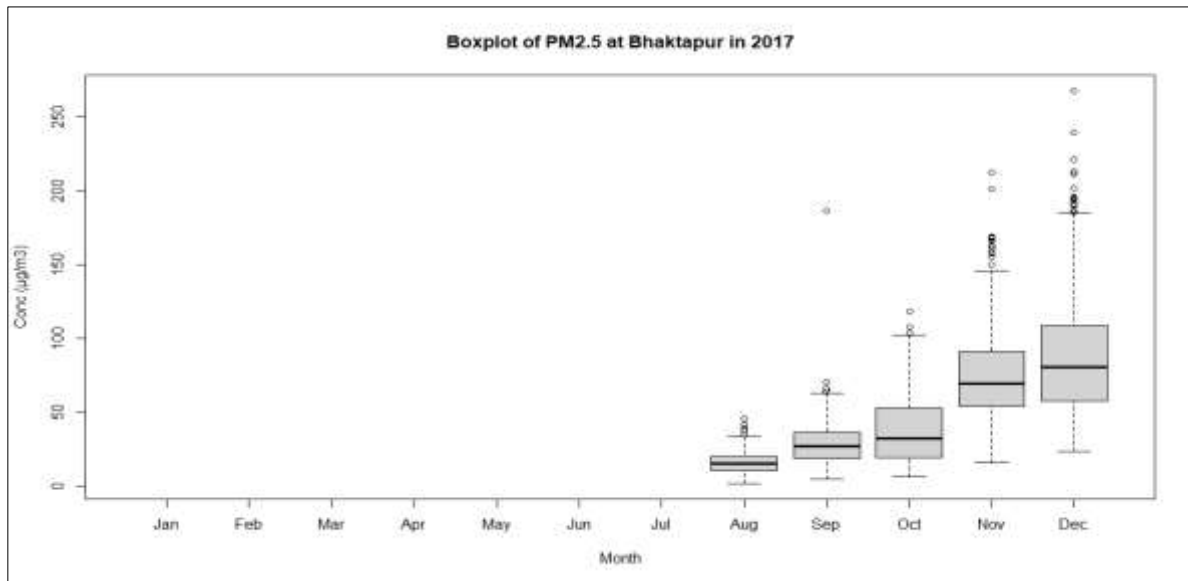


Figure 11: Monthly Variation of PM_{2.5}

Seasonal variation of average PM_{2.5} concentration

Since the year 2017 has only five months of available data, all seasons could not be illustrated in the graph. The figure below shows the data for post monsoon season only which has a concentration of 47.69 µg/m³.

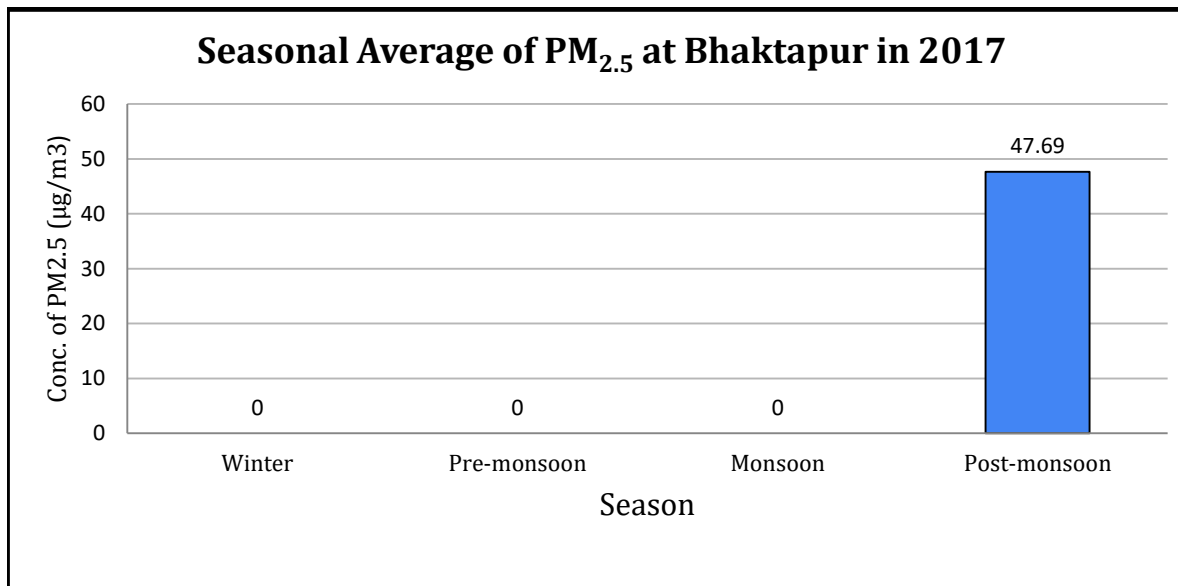


Figure 12: Seasonal variation of PM_{2.5}

Diurnal variation of average PM_{2.5} concentration

The diurnal variation of average PM_{2.5} concentrations can be shown in the figure below. The variation in PM_{2.5} concentration was high at around 7 am and low at 1 to 1 pm.

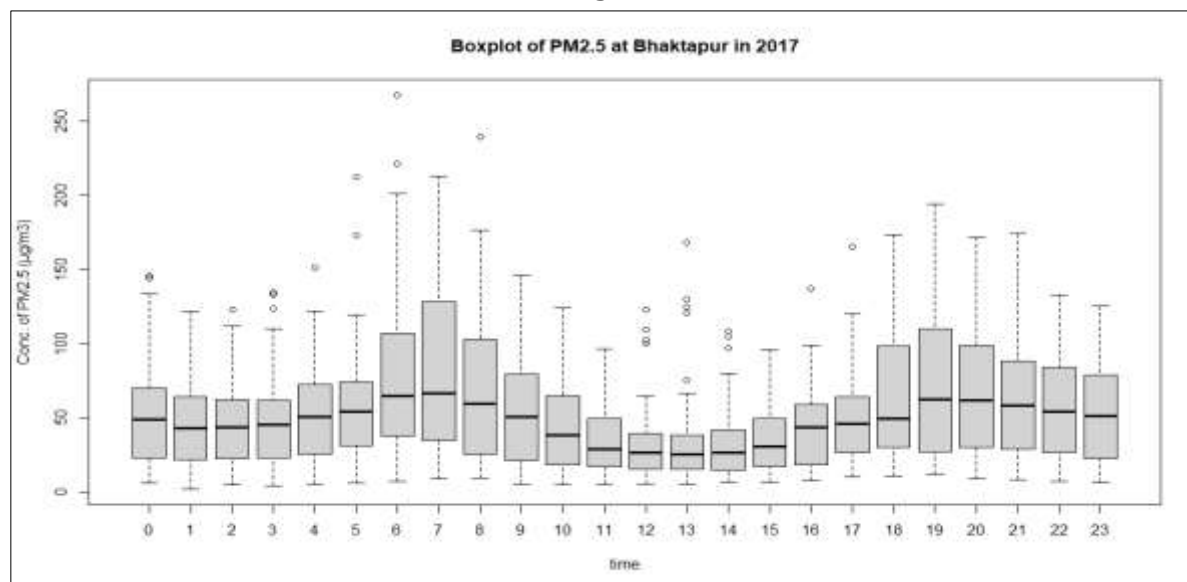


Figure 13: Diurnal variation of average PM_{2.5} concentration

Compliance status of PM_{2.5}

The total days of PM_{2.5} monitored in the year 2017 counts 125 only, of which 68 days exceed the NAAQS guideline.

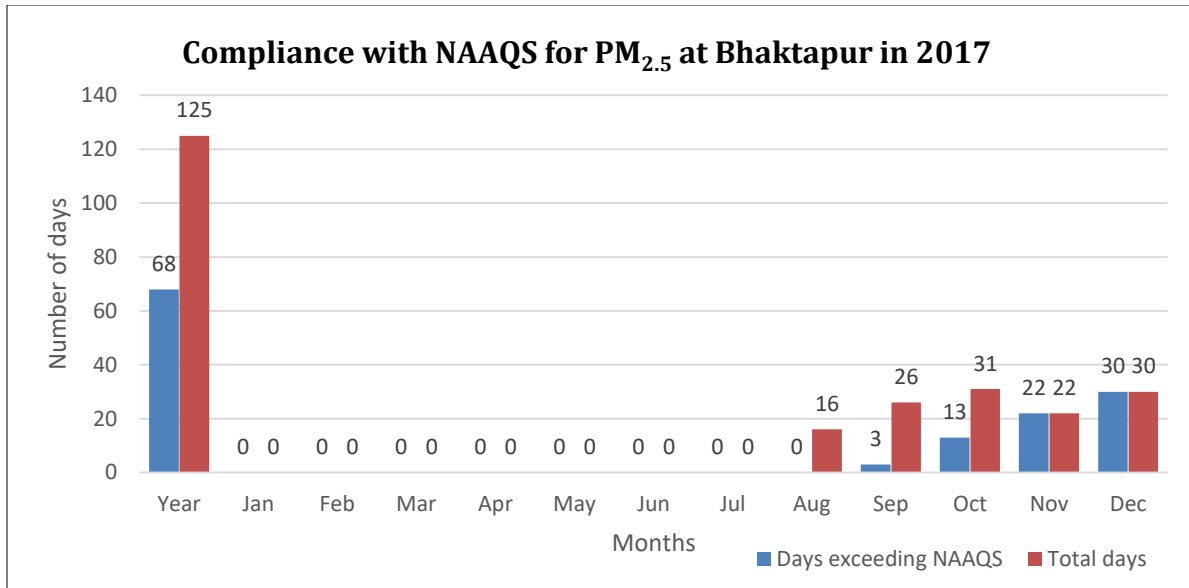


Figure 14: Compliance status of PM_{2.5}

2.1.3. Temporal variation of PM₁₀

Annual average of PM₁₀

The annual average of PM₁₀ for Bhaktapur Station was found to be 106.21 µg/m³ in 2017. Histogram of hourly average PM₁₀ is shown in the figure below.

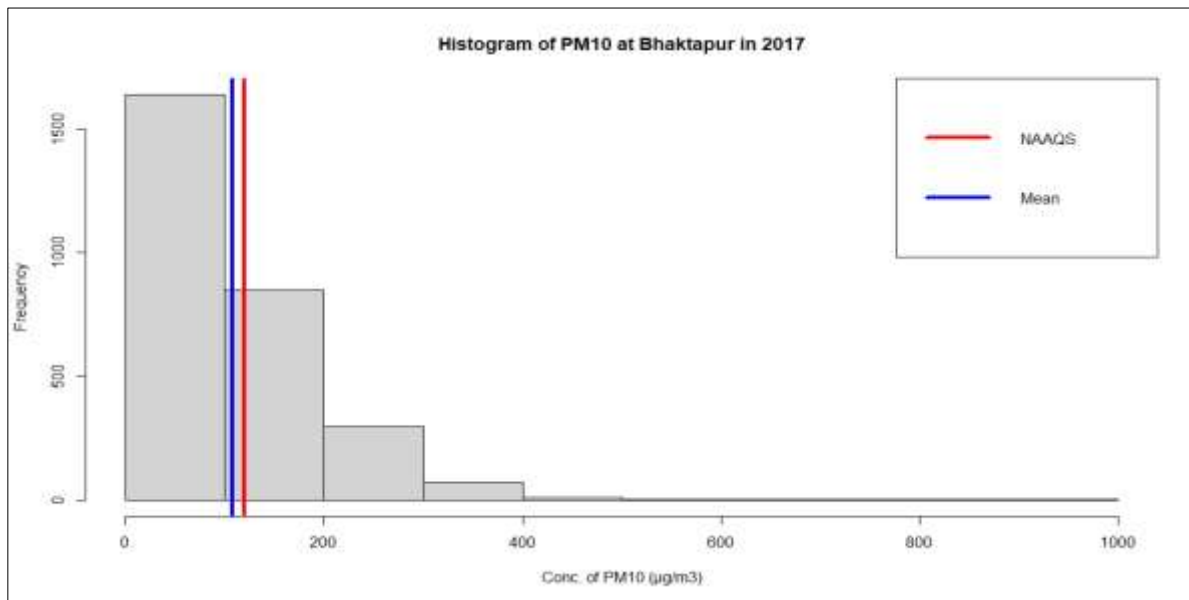


Figure 15 : Histogram for the ambient concentration of PM₁₀

Daily average of PM₁₀

Daily average concentration of PM₁₀ was found to be high during December and low during August.

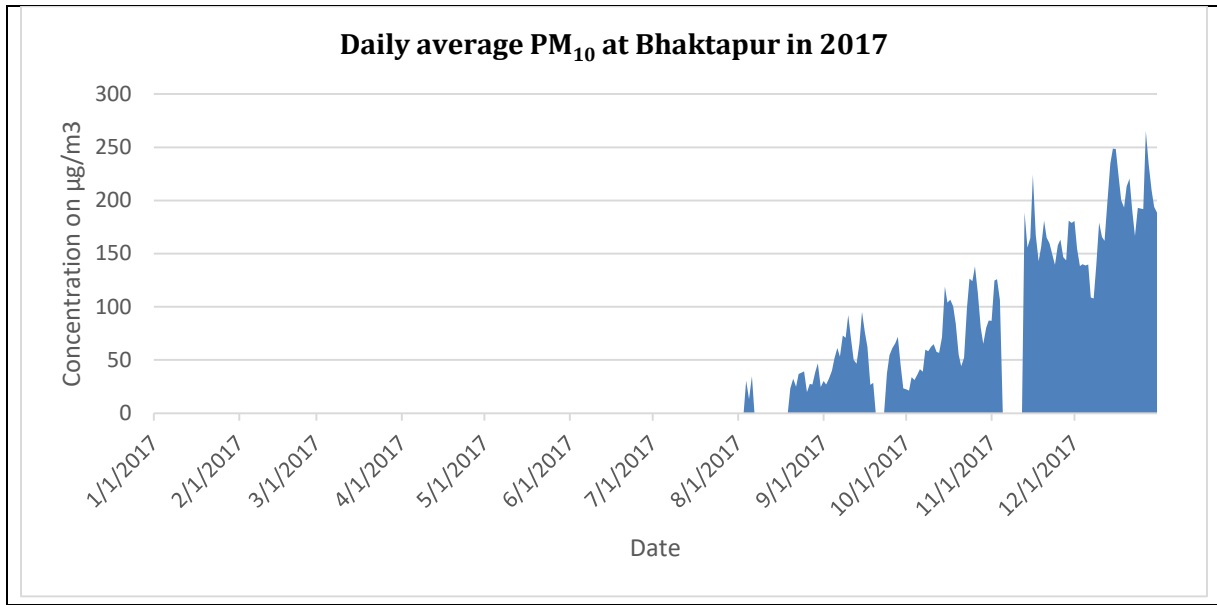


Figure 16: Daily average of PM₁₀

Monthly average of PM₁₀

The highest and the lowest concentration of PM_{2.5} was found during December (180.1 µg/m³) and August (30.48 µg/m³) respectively.

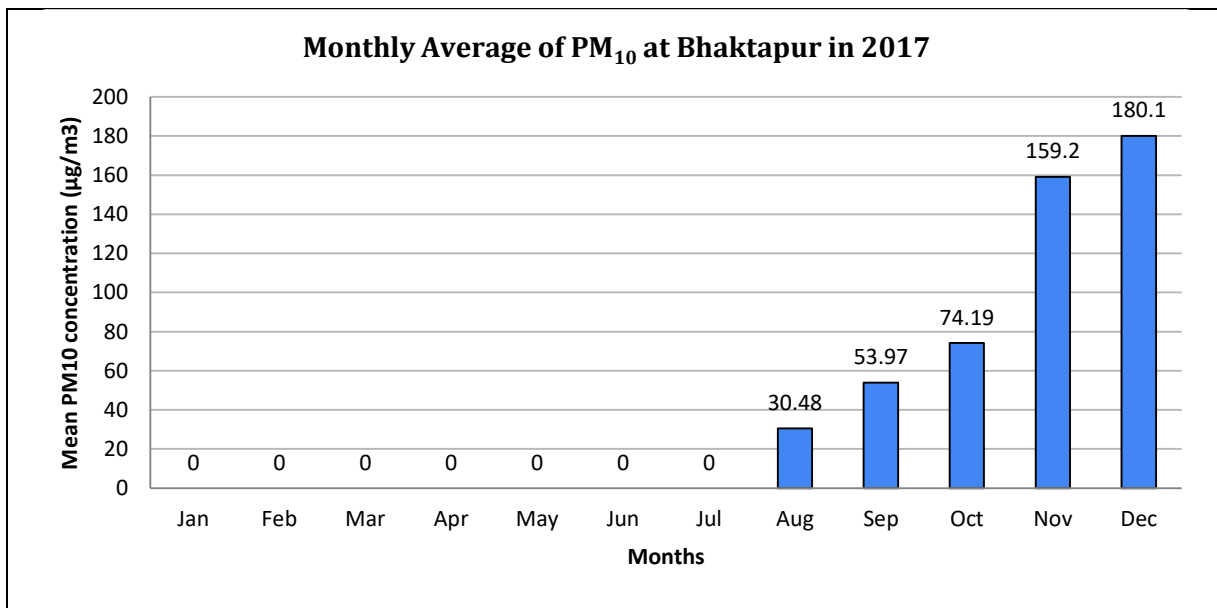


Figure 17: Monthly average of PM₁₀

Variation in concentration of PM₁₀ was found to be more in December and was found low in August.

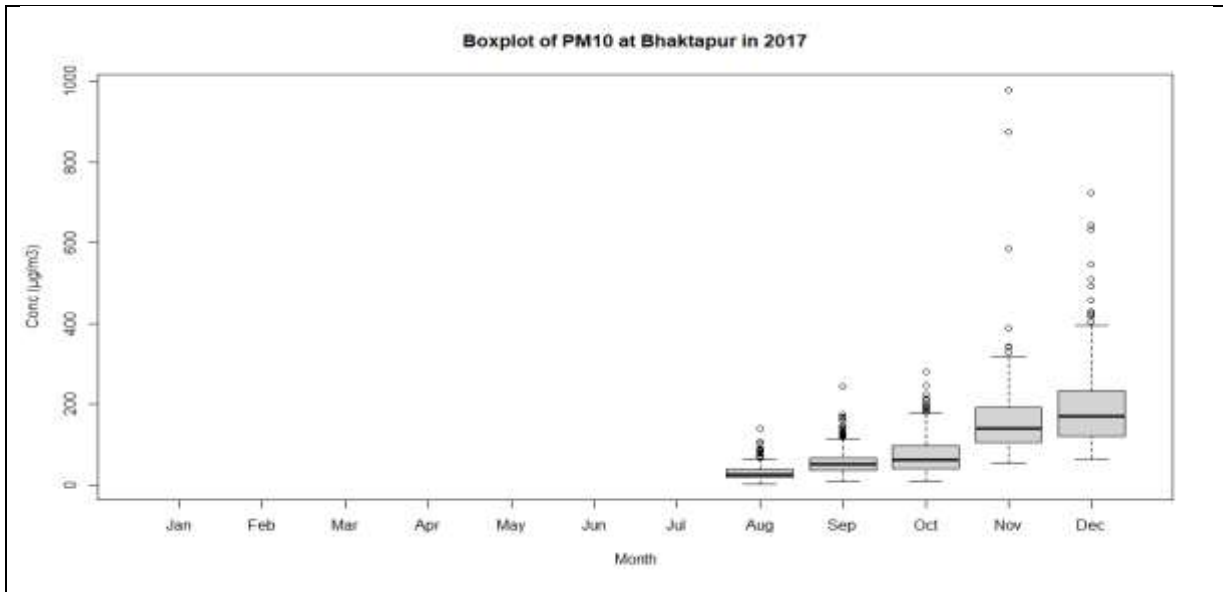


Figure 18: Monthly variation of PM₁₀

Seasonal variation of average PM₁₀ concentration:

Ambient concentration of average PM₁₀ for post-monsoon (October-November) season only can be shown in the figure below which has a concentration of 95.79 µg/m³.

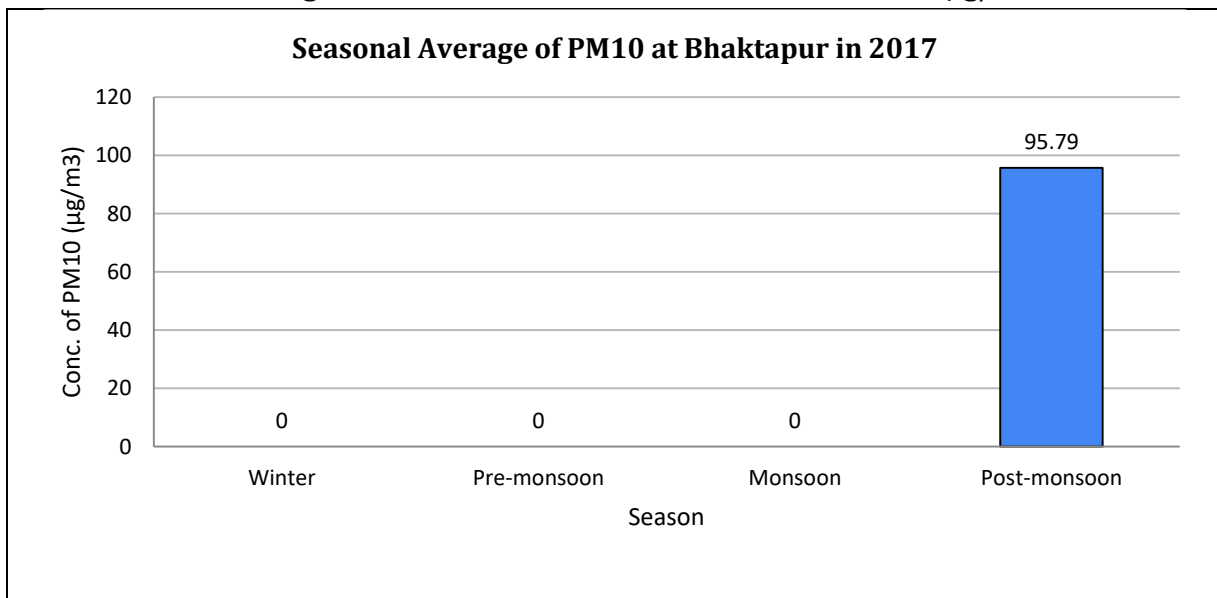


Figure 19: Seasonal variation of PM₁₀

Diurnal variation of average PM₁₀ concentration

The diurnal variation of average PM₁₀ concentrations can be shown in the figure below. The variation in PM₁₀ concentration was high at around 4 pm and low at 2 to 3 am.

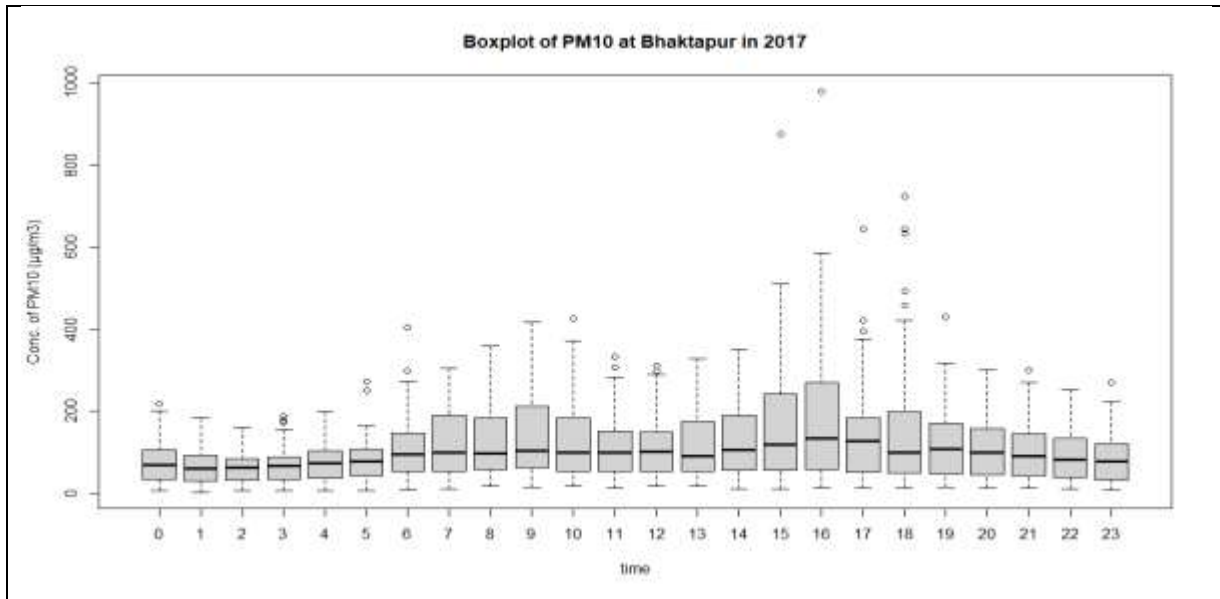


Figure 20: Diurnal variation of average PM₁₀ concentration

Compliance status of PM₁₀

The total days of PM₁₀ monitored in the year 2017 counts 125, of which 97 days exceeded the NAAQS guideline.

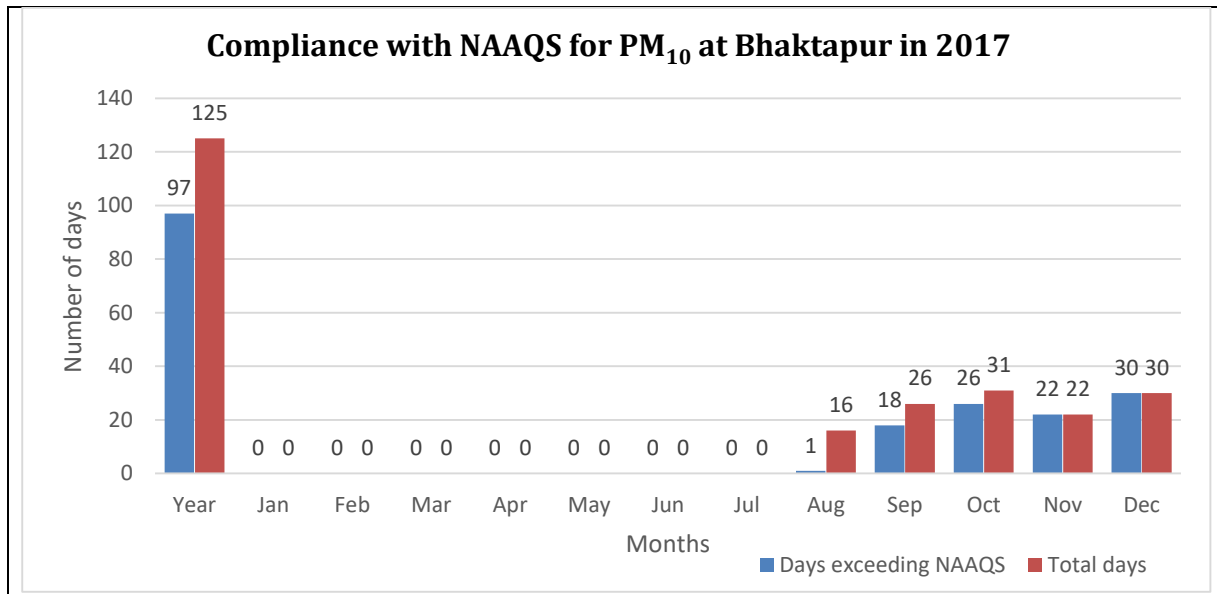


Figure 21: Compliance status of PM₁₀

2.1.4. Temporal variation of TSP

Annual average of TSP

Annual TSP average for Bhaktapur Station for the year 2017 was observed to be 231.91 $\mu\text{g}/\text{m}^3$. Histogram for hourly average TSP is shown in the figure below.

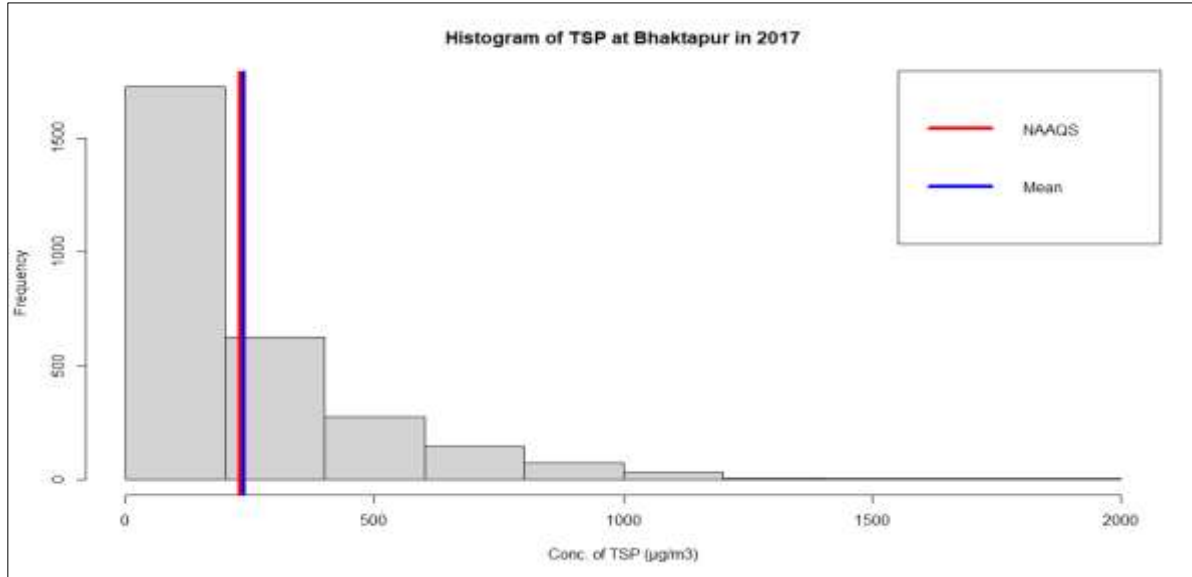


Figure 22 : Histogram for the ambient concentration of TSP

Daily average of TSP:

Daily average of TSP was found to be high during December and was found low during August.

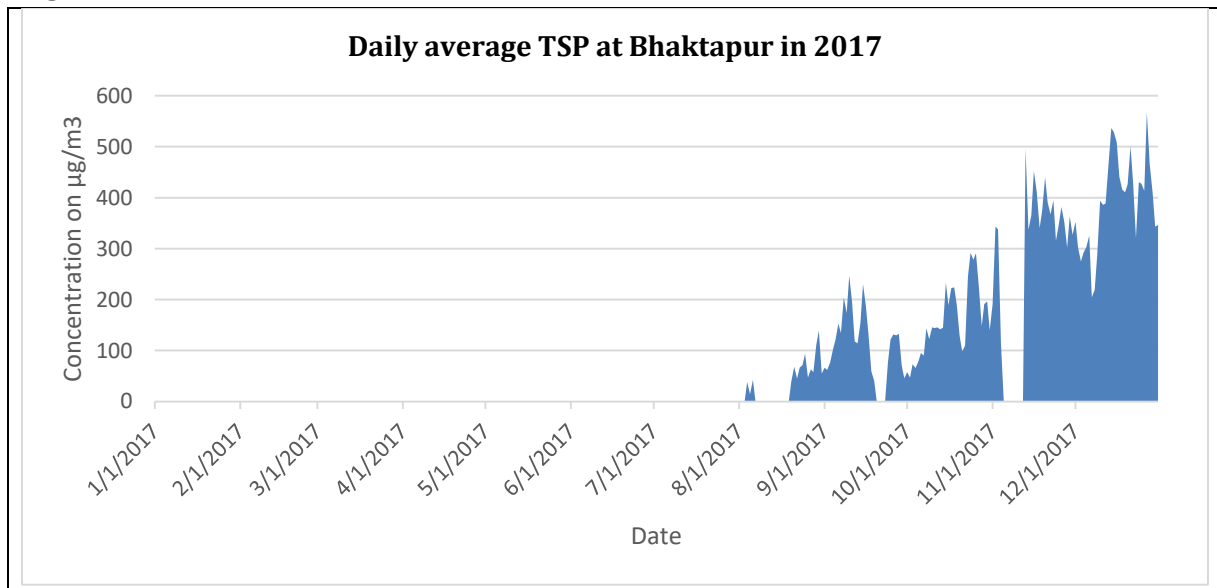


Figure 23: Daily average of TSP

Monthly average of TSP

The highest and the lowest concentration of PM_{2.5} was found during December (379.48 $\mu\text{g}/\text{m}^3$) and August (63.54 $\mu\text{g}/\text{m}^3$) respectively.

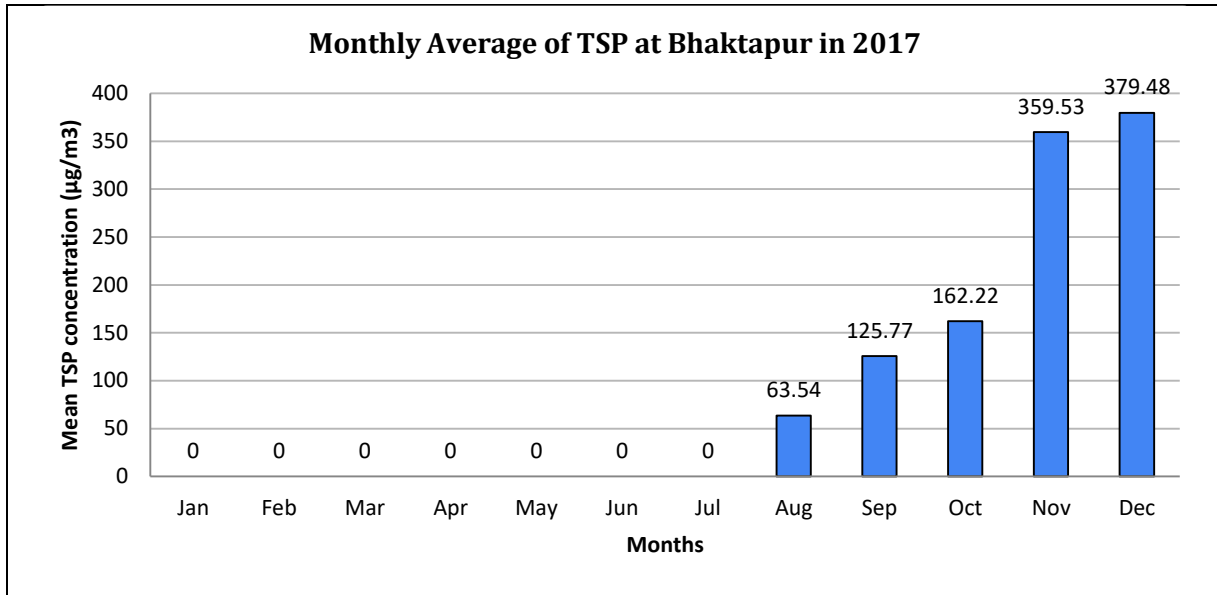


Figure 24: Monthly average of TSP

Variation in concentration of TSP was found more in December and low in August.

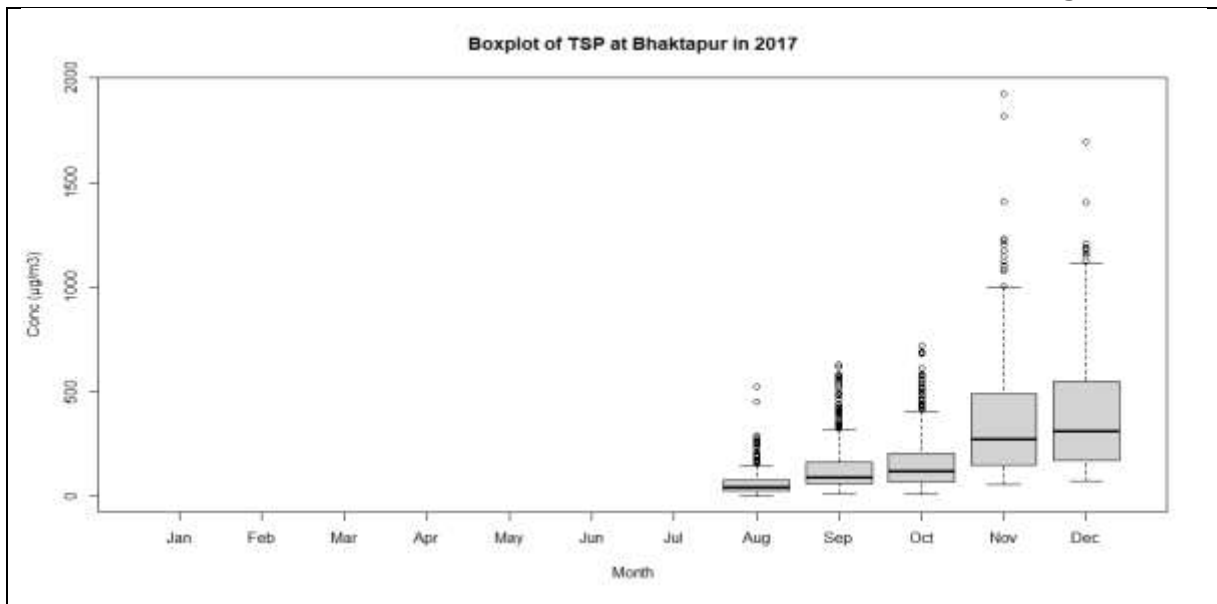


Figure 25: Monthly variation of TSP

Seasonal variation of average TSP concentration

Ambient concentration of average TSP during post-monsoon (October-November) season can only be shown in the figure below which has a concentration of 215.84 $\mu\text{g}/\text{m}^3$.

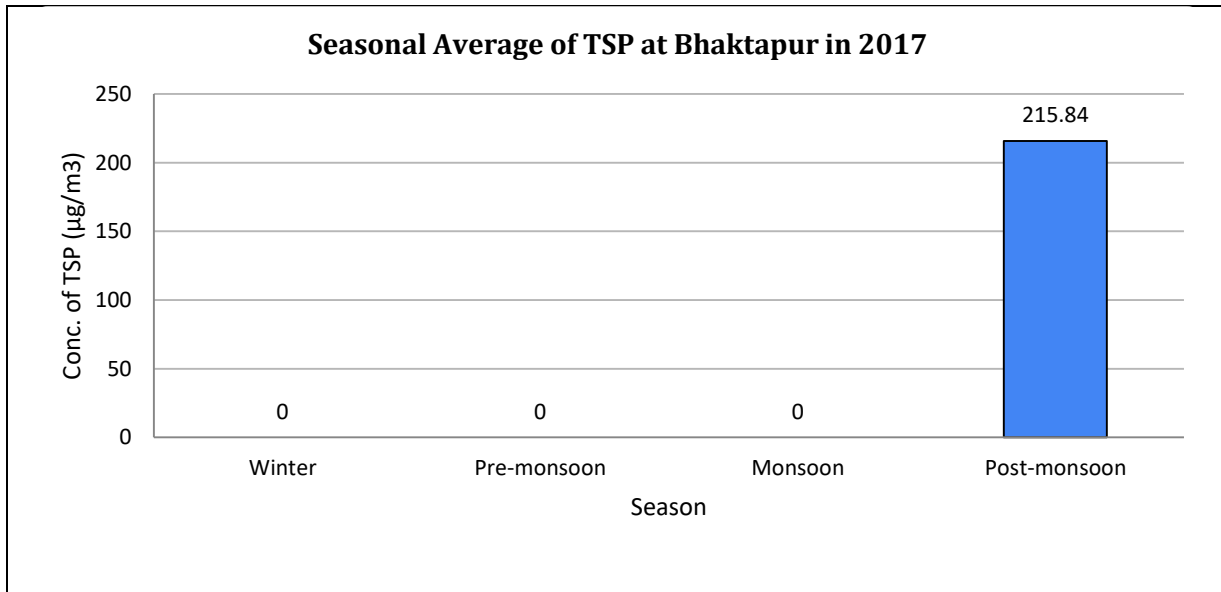


Figure 26: Seasonal variation of TSP

Diurnal variation of average TSP concentration

The diurnal variation of average TSP concentrations can be shown in the figure below. The variation in TSP concentration was high at around 3 pm and low from 1 to 3 am.

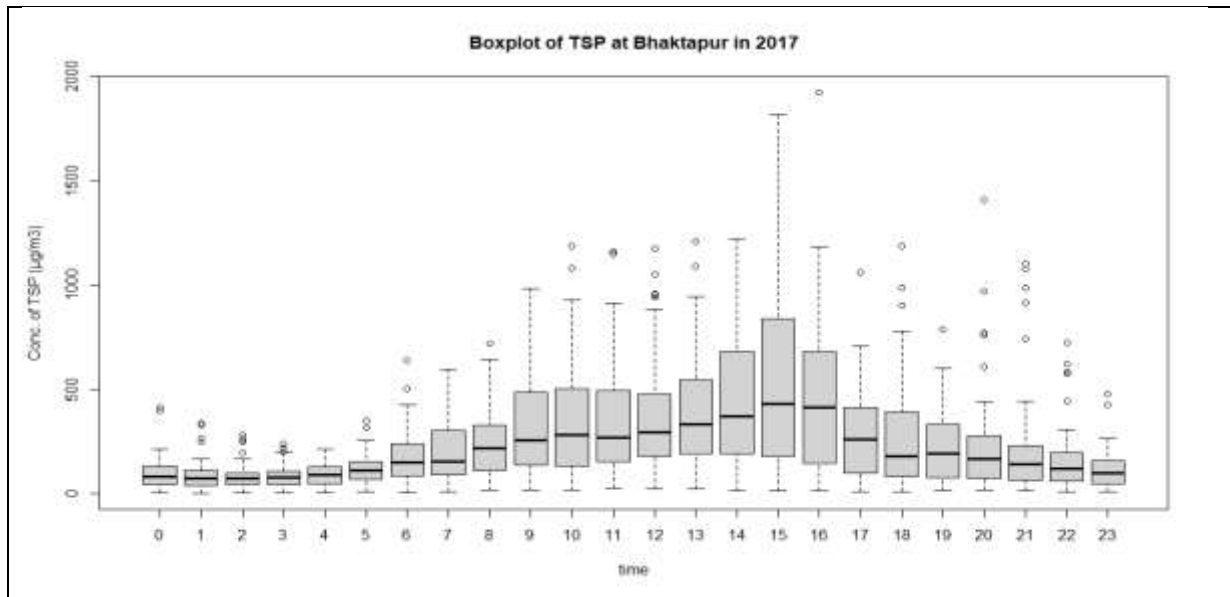


Figure 27: Diurnal variation of average TSP concentration

Compliance status of TSP

The total days of TSP monitored in the year 2017 counts 125, of which 122 days exceeded the NAAQS guideline.

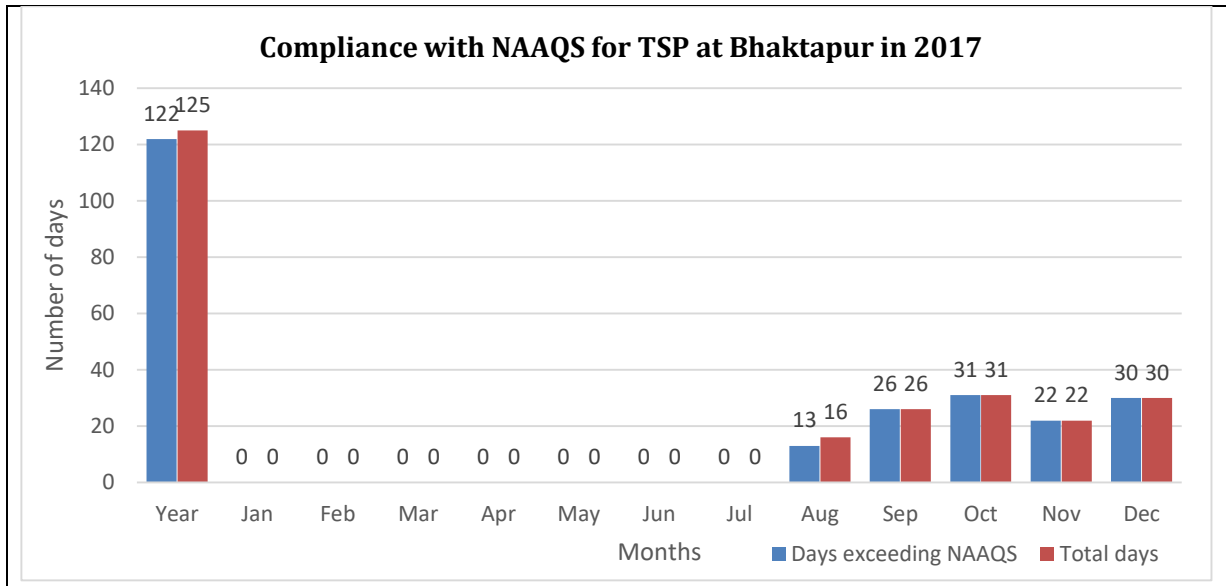


Figure 28: Compliance status of TSP

2.2. Air quality status, 2018

2.2.1. Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP

The annual average of PM₁, PM_{2.5}, PM₁₀ and TSP for the Bhaktapur station was calculated as shown in the figure below.

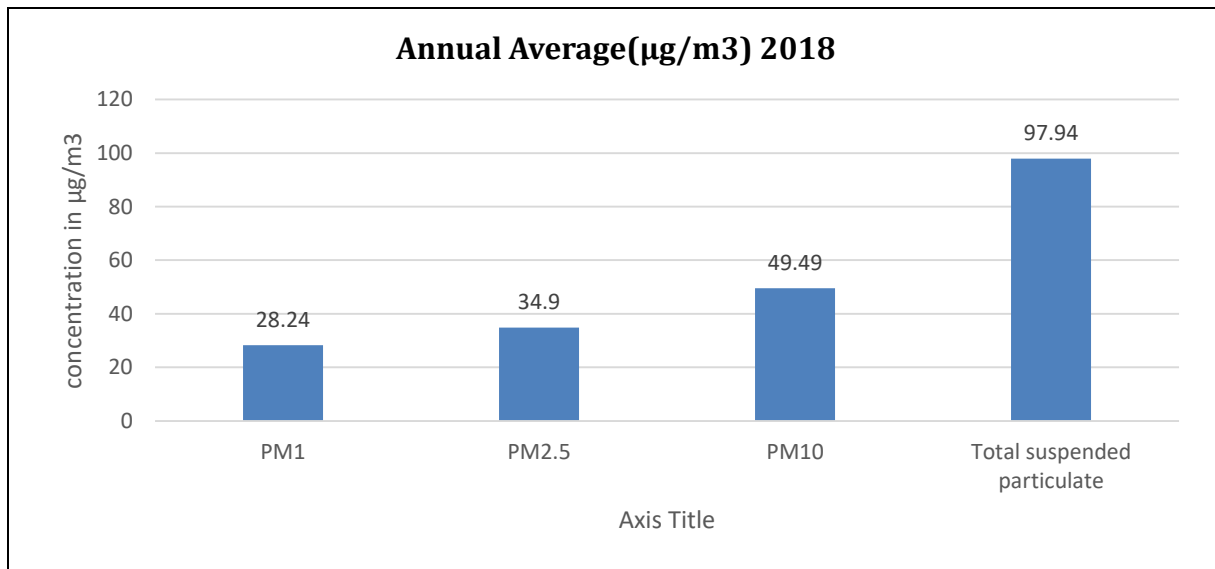


Figure 29: Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP in 2018

2.2.2. Temporal variation of PM₁

Annual average of PM₁

The annual average of PM₁ for Bhaktapur station was found to be 28.24 µg/m³ in 2018. Histogram of hourly average PM₁ is shown in the figure below.

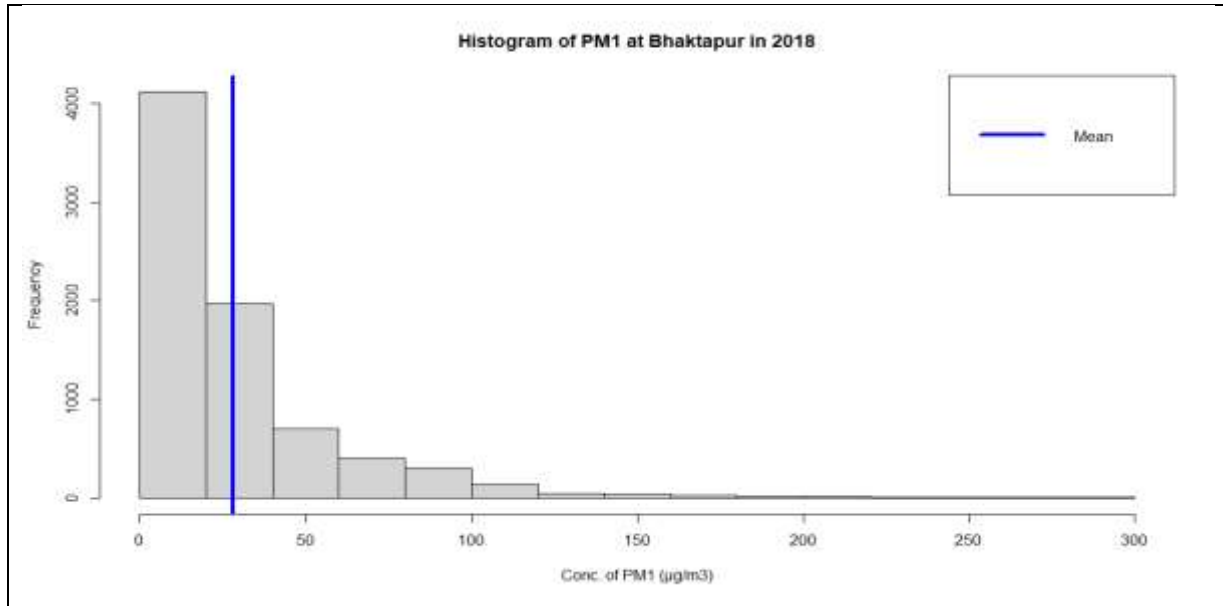


Figure 30 : Histogram for the ambient concentration of PM₁

Daily average of PM₁

Daily average concentration of PM₁ was found to be high during January and low during August as shown in the figure below.

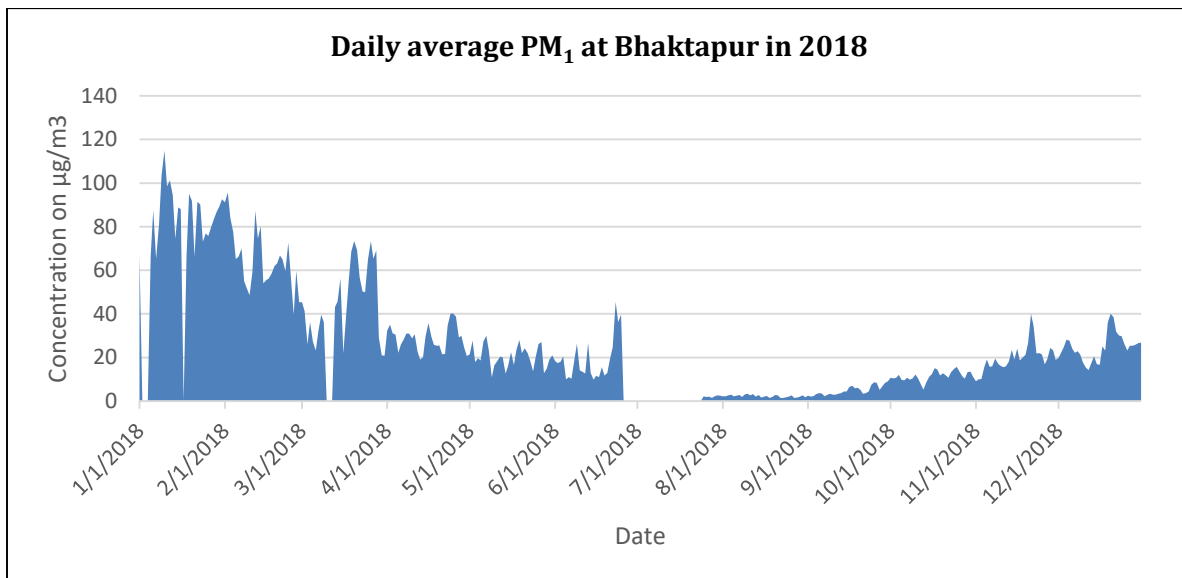


Figure 31: Daily average of PM₁

Monthly average of PM₁

The highest and the lowest concentration of PM₁ was found during January (84.81 µg/m³) and July (2.1 µg/m³) respectively.

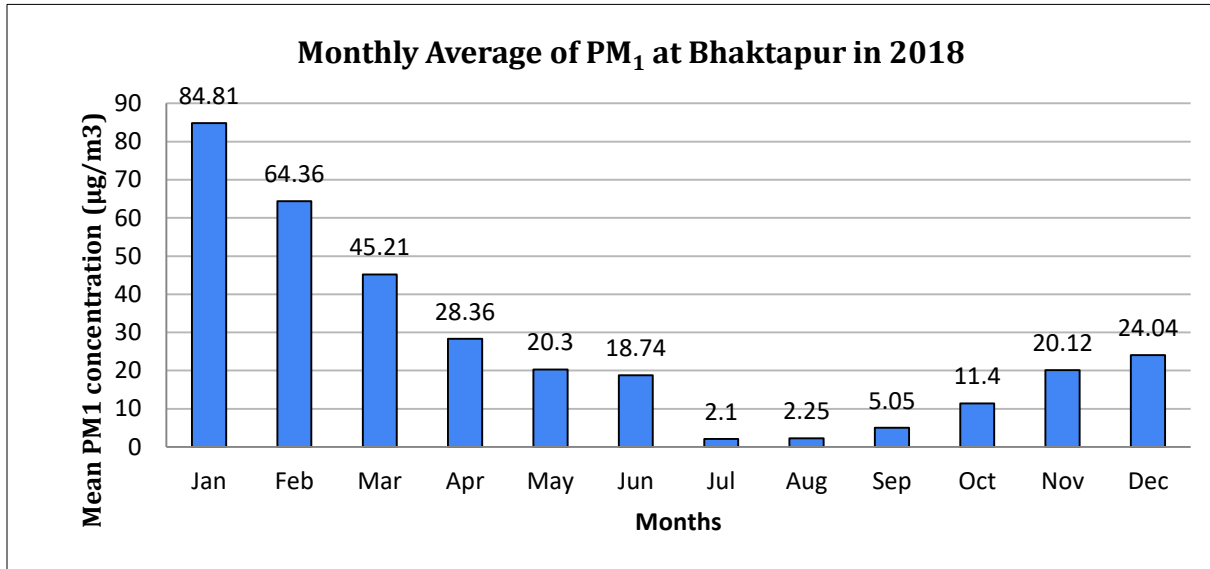


Figure 32: Monthly average of PM₁

Variation in concentration of PM₁ was found more in January and low in July and August.

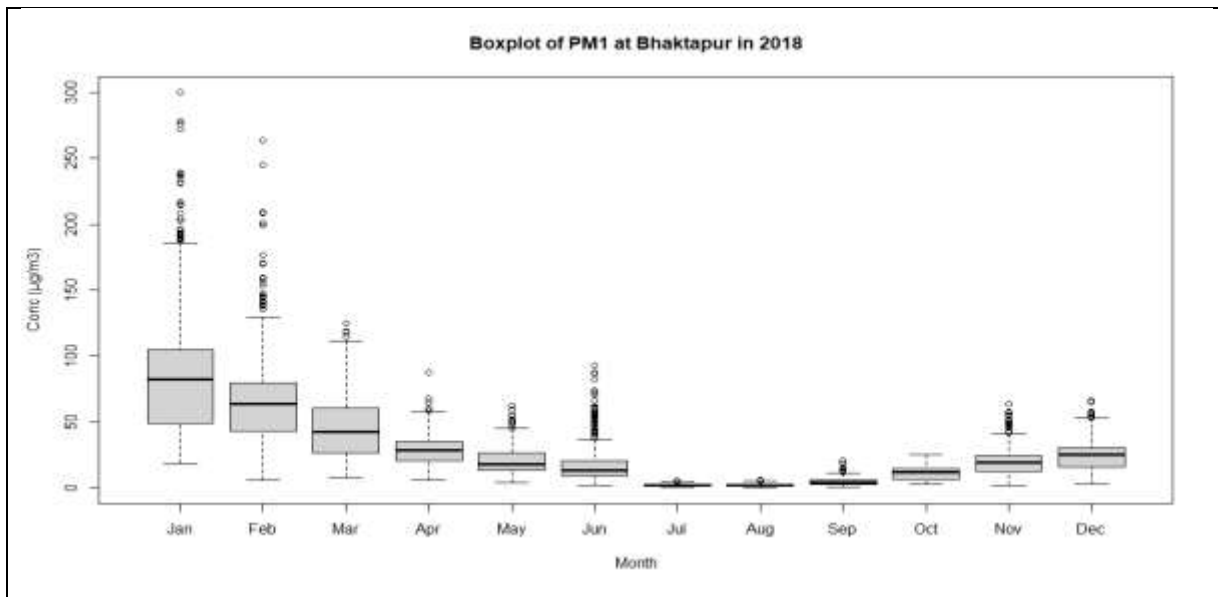


Figure 33: Monthly Variation of PM₁

Seasonal variation of PM₁

Ambient concentration of average PM₁ with four seasons, namely, pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be shown in the figure below. The highest concentration of PM₁



was found in the winter season ($69.35 \mu\text{g}/\text{m}^3$) and lowest was found in monsoon season ($7.7 \mu\text{g}/\text{m}^3$).

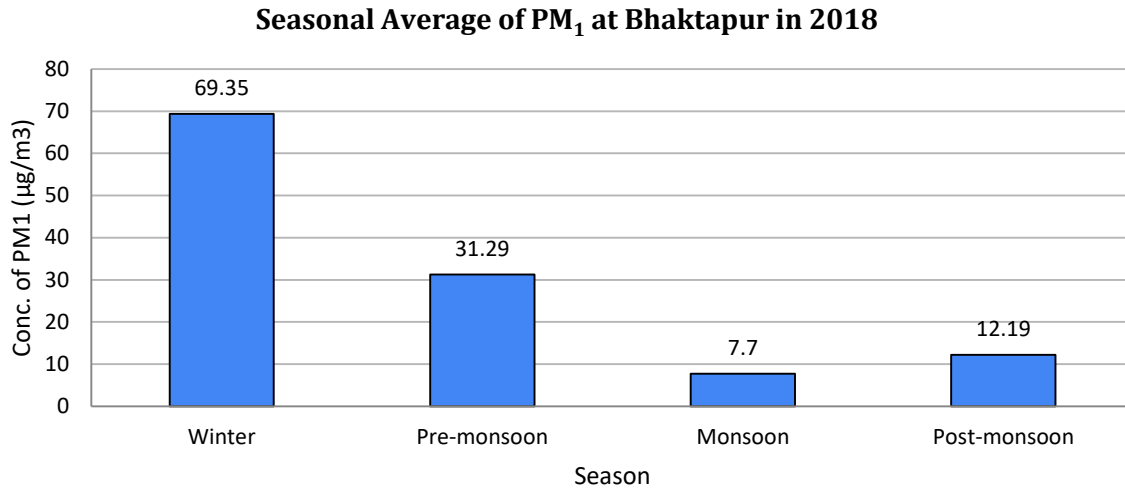


Figure 34: Seasonal variation of PM₁

Diurnal variation of average concentration of PM₁

The diurnal variation of average PM₁ concentration can be shown in the figure below. The variation in PM₁ concentration was high at around 7 am and low during 1 to 3 pm.

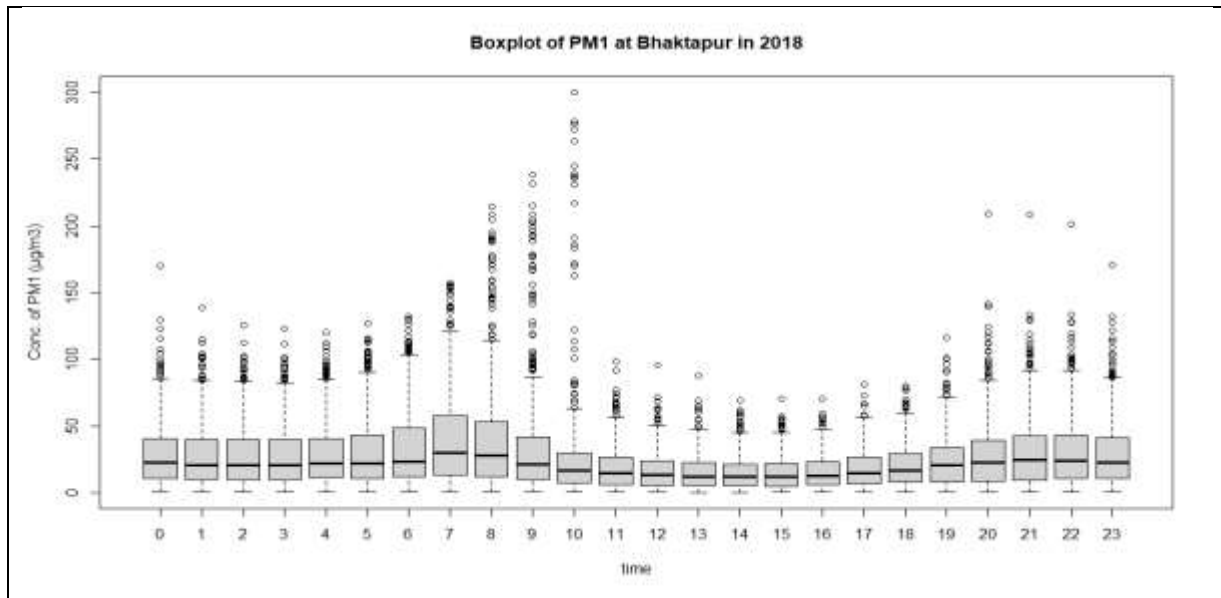


Figure 35: Diurnal variation of average PM₁ concentration

2.2.3. Temporal variation of PM_{2.5}

Annual Average of PM_{2.5}

The annual average of PM_{2.5} at Bhaktapur station was found to be 34.9 µg/m³ in 2018. Histogram for hourly average PM_{2.5} is shown in the figure below.

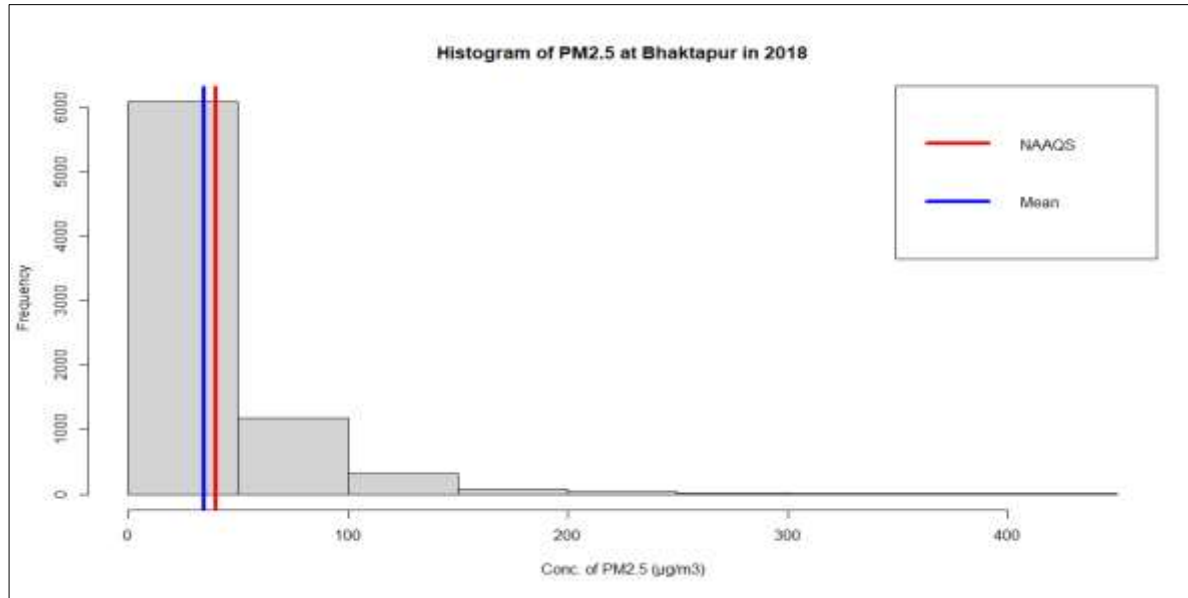


Figure 36 : Histogram for the ambient concentration of PM_{2.5}

Daily Average of PM_{2.5}

Daily average concentration of PM_{2.5} was found to be high during January and was found low during August.

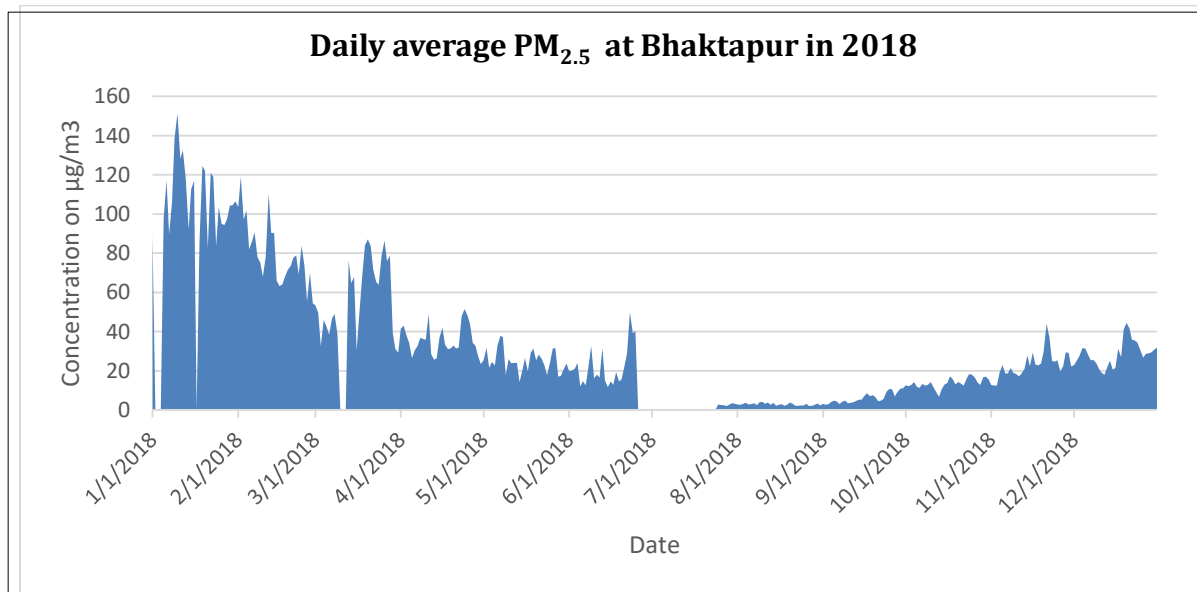


Figure 37: Daily average of PM_{2.5}

Monthly Average of PM_{2.5}

The highest and the lowest concentration of PM_{2.5} was found during January (108.68 µg/m³) and July (2.74 µg/m³) respectively.

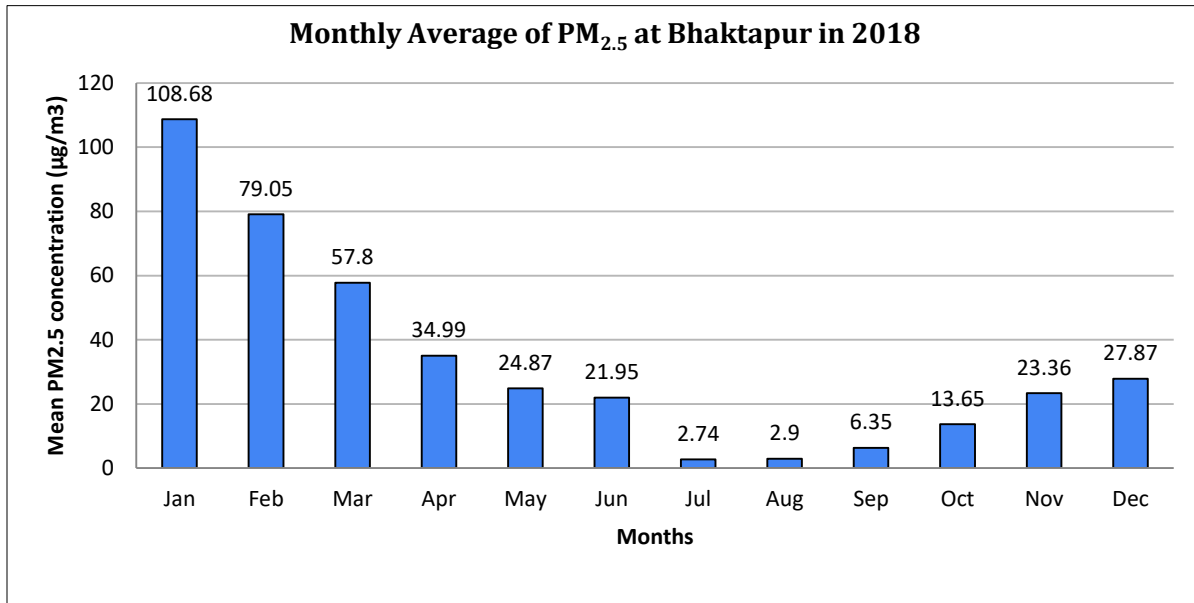


Figure 38: Monthly average of PM_{2.5}

Variation in concentration of PM_{2.5} was found more during January and low during July and August.

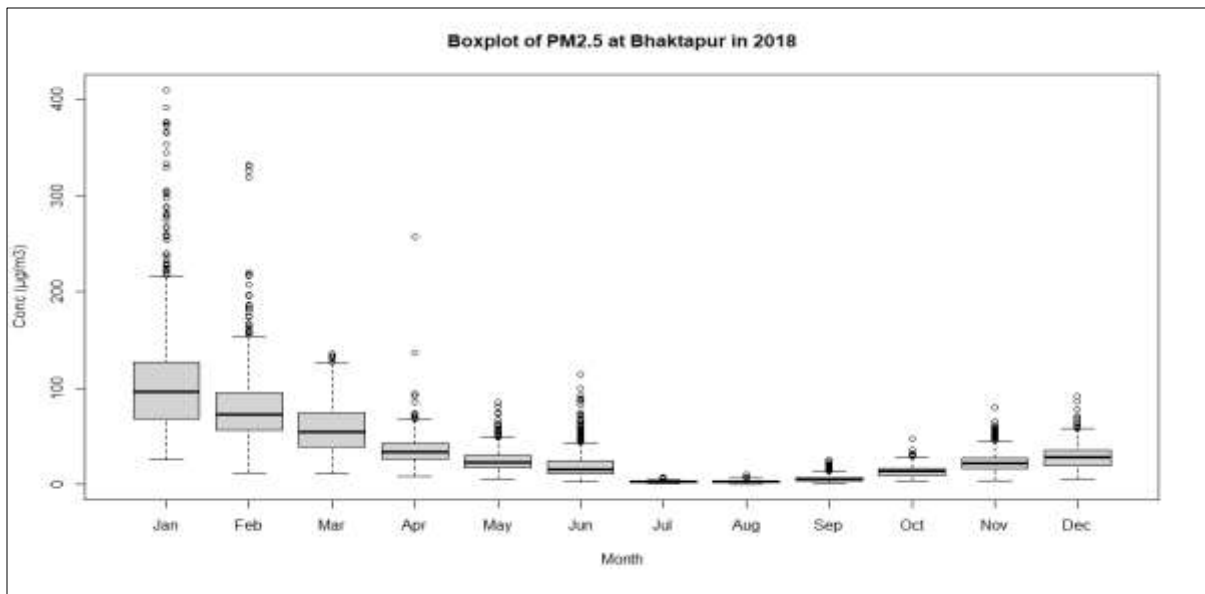


Figure 39: Monthly Variation of PM_{2.5}

Seasonal Variation of Average PM_{2.5} concentration

Ambient concentration of average PM_{2.5} during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be

shown in the figure below. The highest concentration of PM_{2.5} was found during winter (90.39 µg/m³) and the lowest concentration was found during monsoon (9.2 µg/m³).

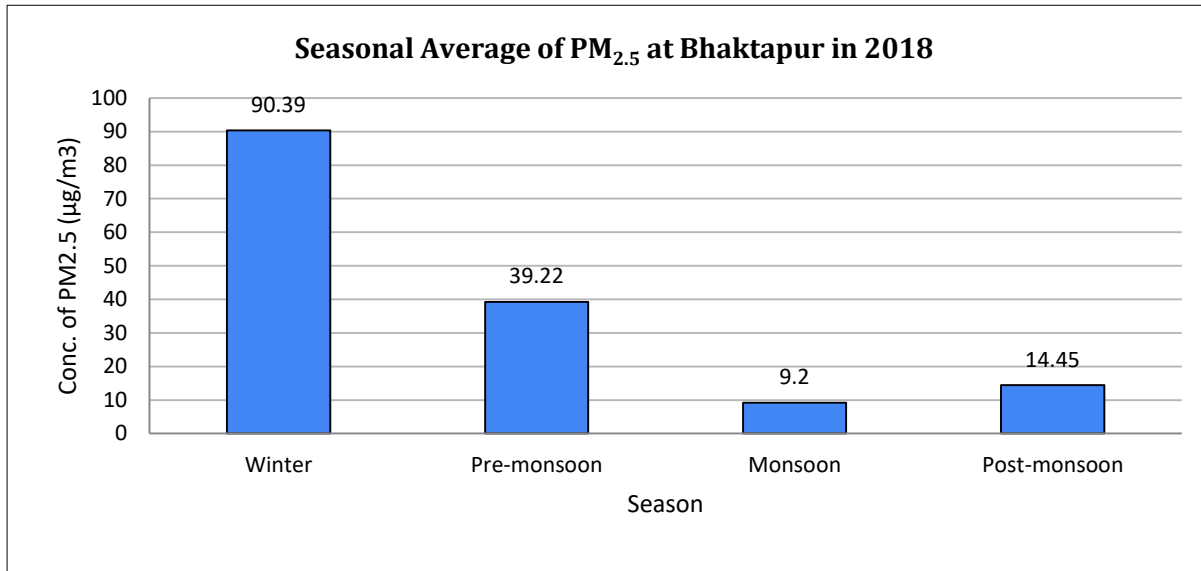


Figure 40: Seasonal variation of PM_{2.5}

Diurnal Variation of average PM_{2.5} concentration

The diurnal variation of average PM_{2.5} concentrations can be shown in the figure below. The variation in PM_{2.5} concentrations was high at around 7 am and low at 1 to 3 pm.

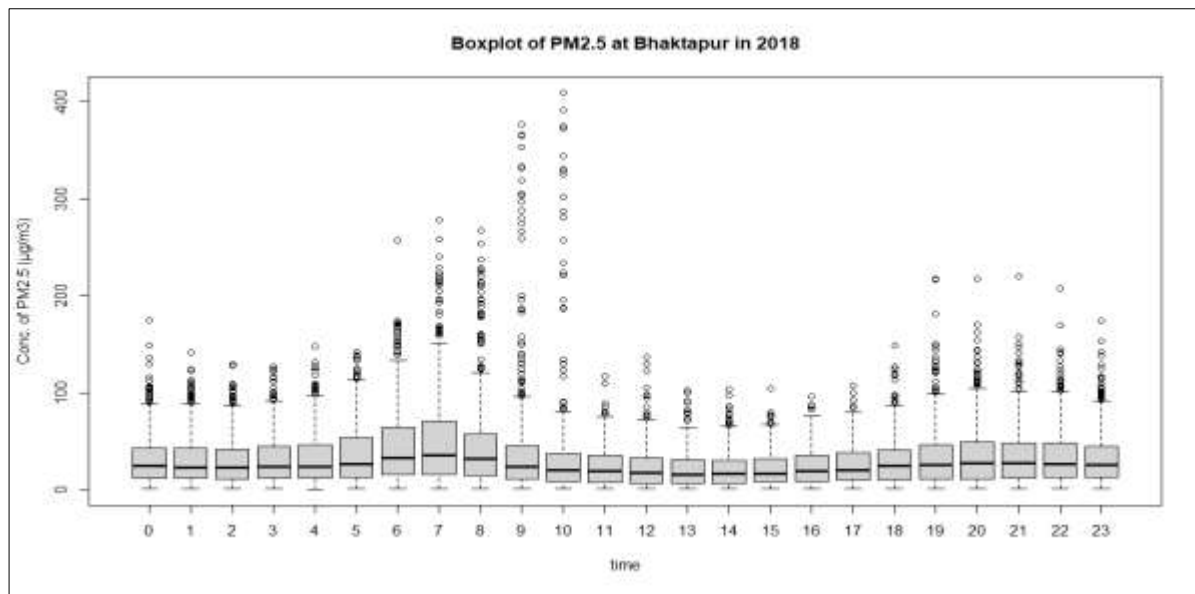


Figure 41: Diurnal variation of average PM_{2.5} concentration

Compliance Status of PM_{2.5}

The total days of PM_{2.5} monitored in the year 2018 counts 329 only, of which 90 days exceed the NAAQS guideline.



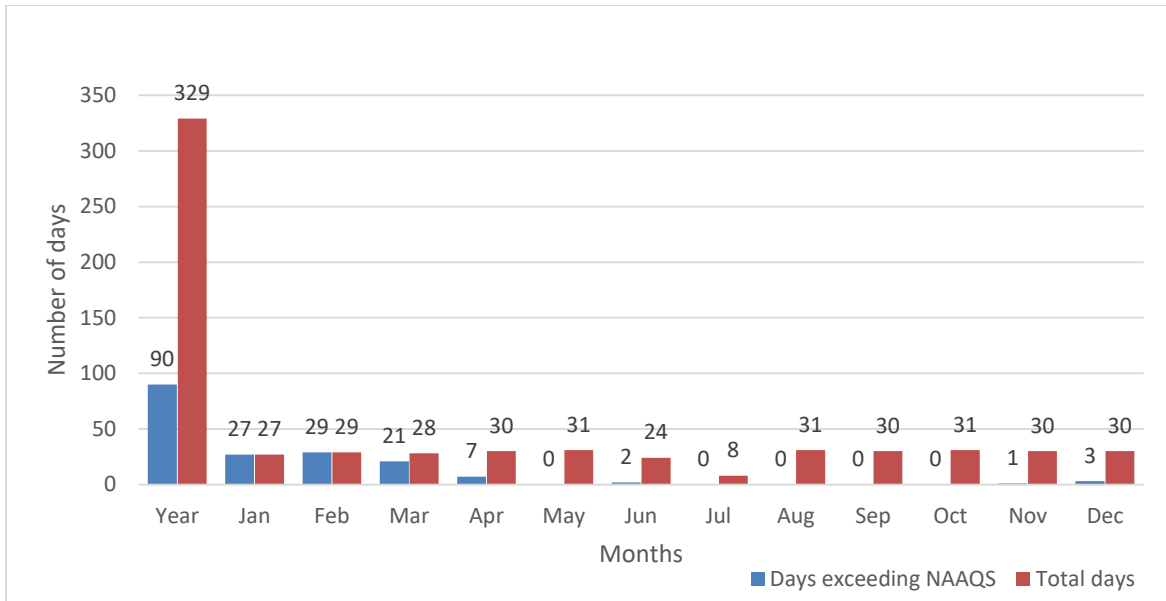


Figure 42: Compliance status of PM_{2.5}

2.2.4. Temporal variation of PM₁₀

Annual Average of PM₁₀

The annual average of PM₁₀ at Bhaktapur station was found to be 49.49 µg/m³ in 2018. Histogram of hourly average PM₁₀ is shown in the figure below.

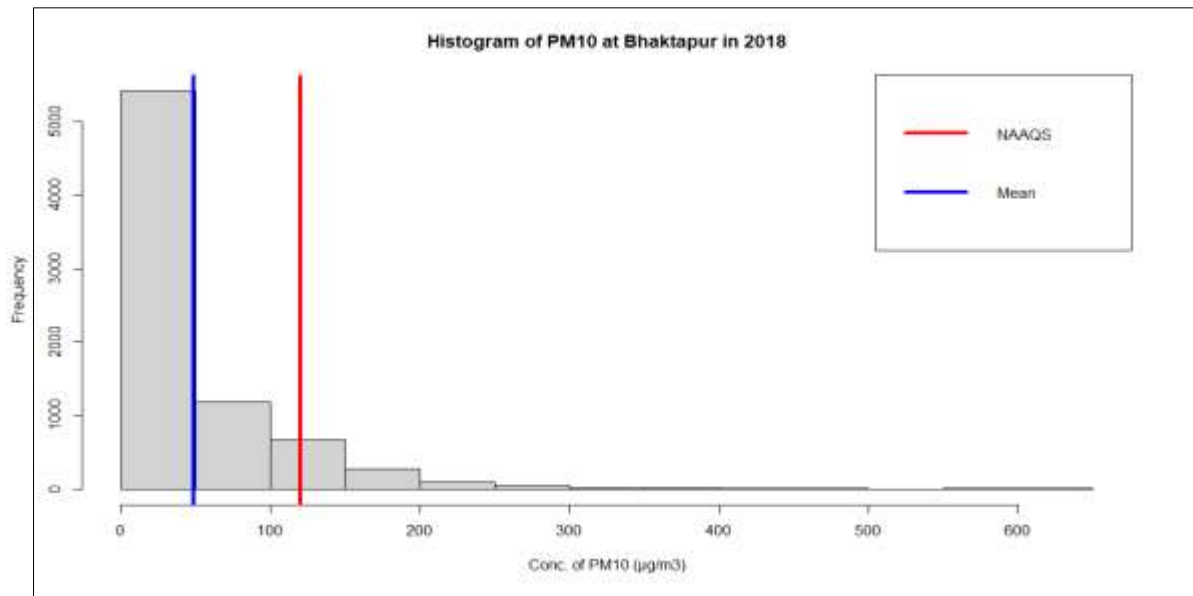


Figure 43: Histogram for the ambient concentration of PM₁₀

Daily Average of PM₁₀

Daily average concentration of PM₁₀ was found to be high during January and was found low during August.



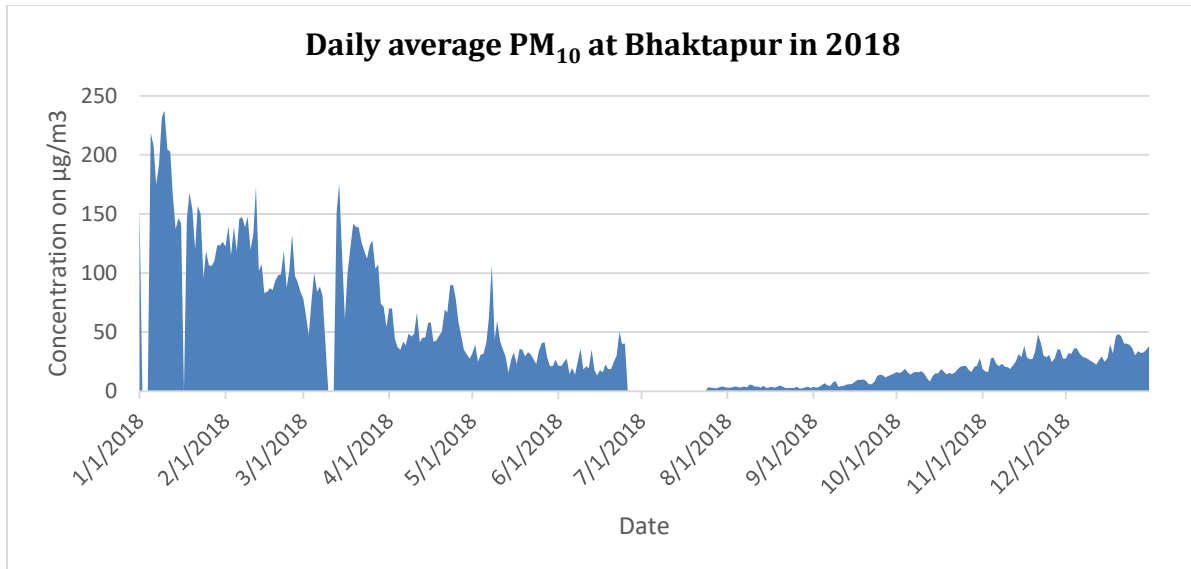


Figure 44: Daily average of PM₁₀

Monthly Average of PM₁₀

The highest and the lowest concentration of PM₁₀ was found during January (156.47 µg/m³) and July (3.14 µg/m³) respectively.

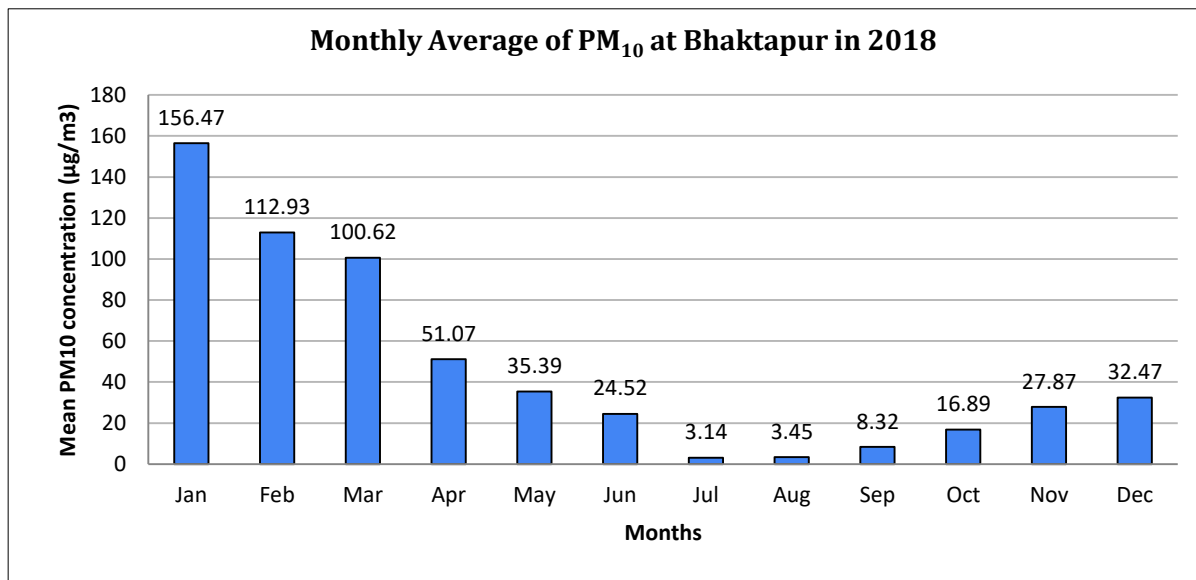


Figure 17: Monthly average of PM₁₀

Variation in concentration of PM₁₀ was found more during January and low during July and August.

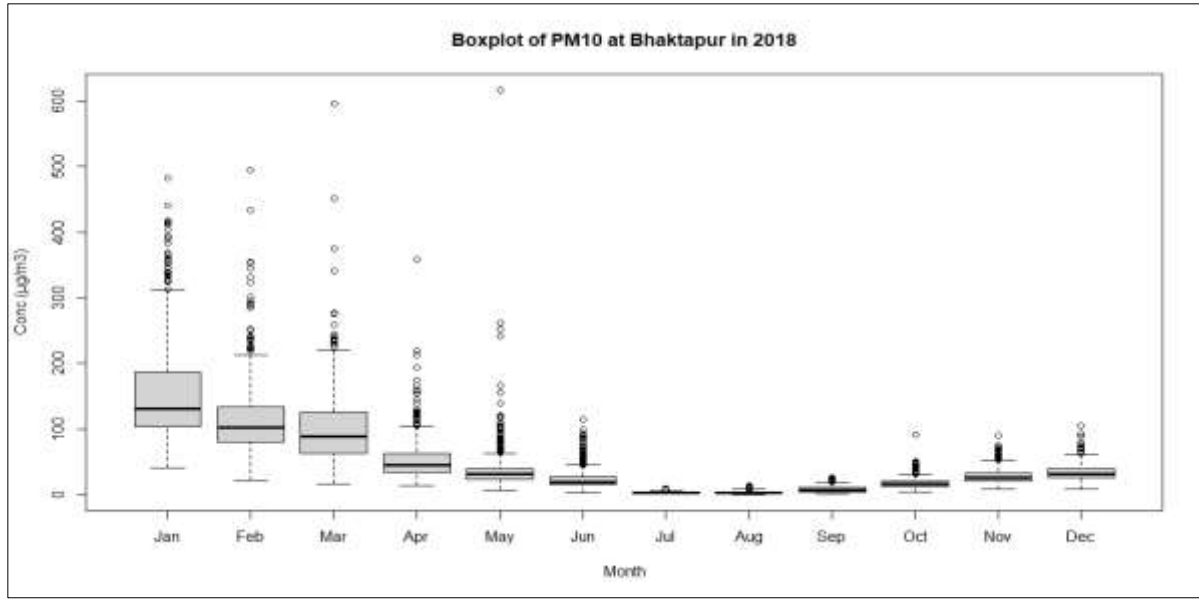


Figure 45: Monthly Variation of PM₁₀

Seasonal Variation of Average PM₁₀ concentration

Ambient concentration of average PM₁₀ during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be shown in the figure below. The highest concentration of PM₁₀ was found during winter (98.98 µg/m³) and the lowest concentration was found during monsoon (10.37 µg/m³).

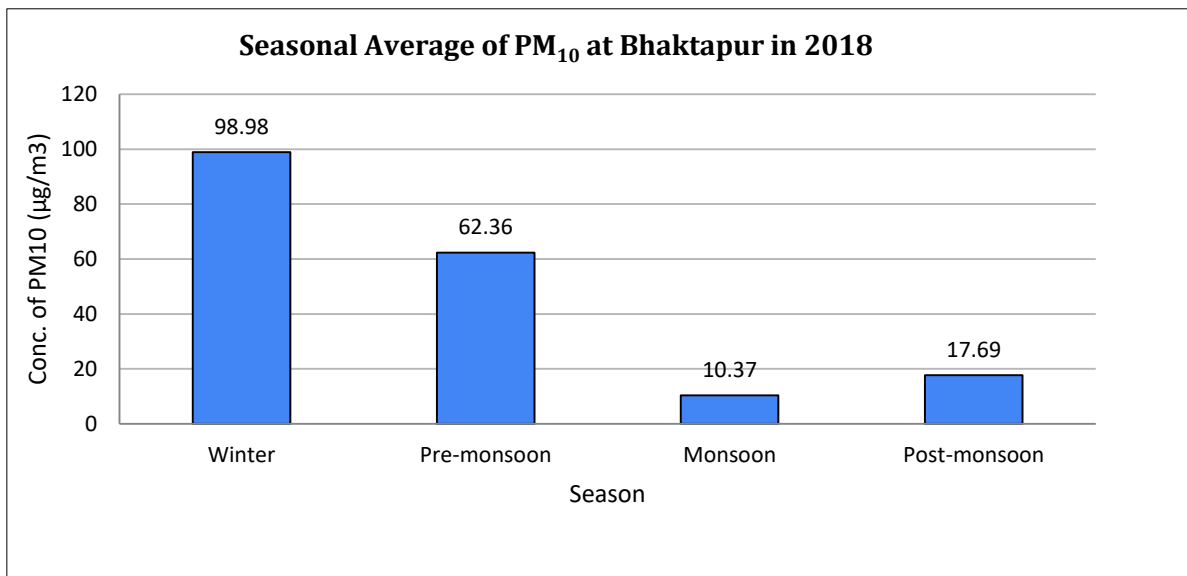


Figure 46: Seasonal variation of PM₁₀

Diurnal Variation of average PM₁₀ concentration

The diurnal variation of average PM₁₀ concentrations can be shown in the figure below. The variation in PM₁₀ concentration was high at around 12 pm and low at 2 to 3 am.

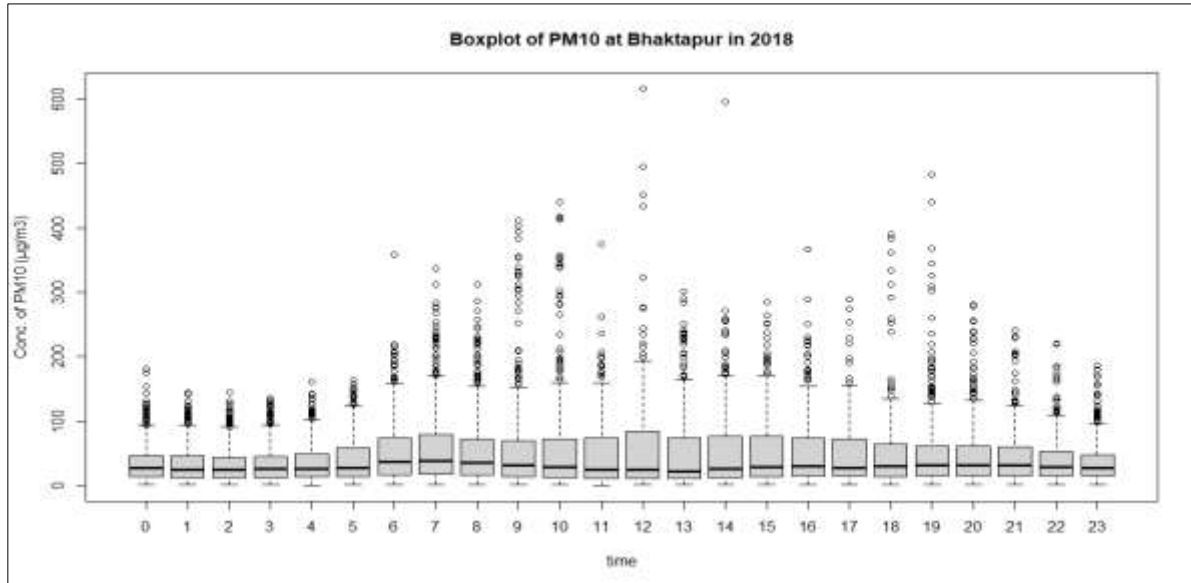


Figure 19: Diurnal variation of average PM₁₀ concentration

Compliance Status of PM₁₀

The total days of PM₁₀ monitored in the year 2018 counts 329, of which 41 days exceeded the NAAQS guideline.

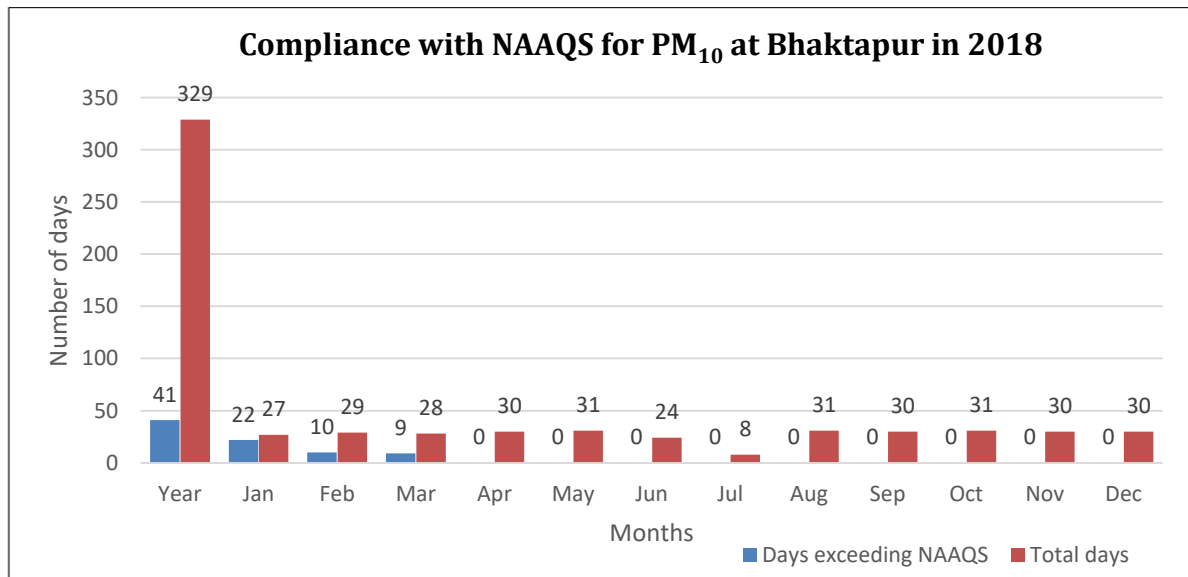


Figure 47: Compliance status of PM₁₀

2.2.5. Temporal variation TSP

Annual Average of TSP

The annual average of TSP at Bhaktapur station was found to be 97.94 $\mu\text{g}/\text{m}^3$ in 2018. Histogram of hourly average TSP is shown in the figure below.

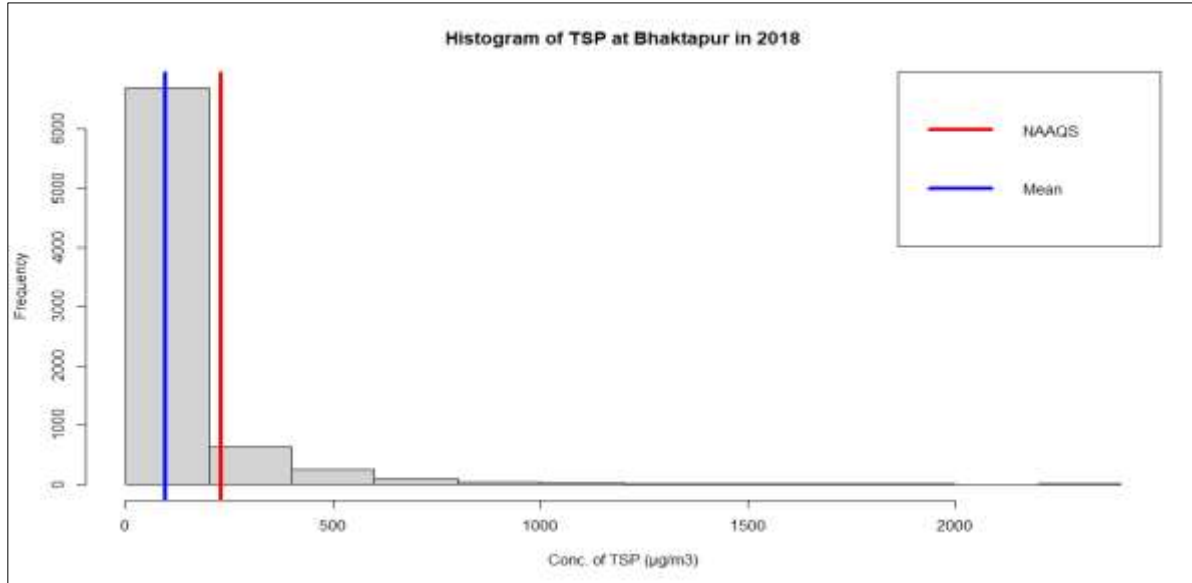


Figure 48: Histogram for the ambient concentration of TSP

Daily Average of TSP

Daily average concentration of TSP was found to be high during March and was found low during August and September.

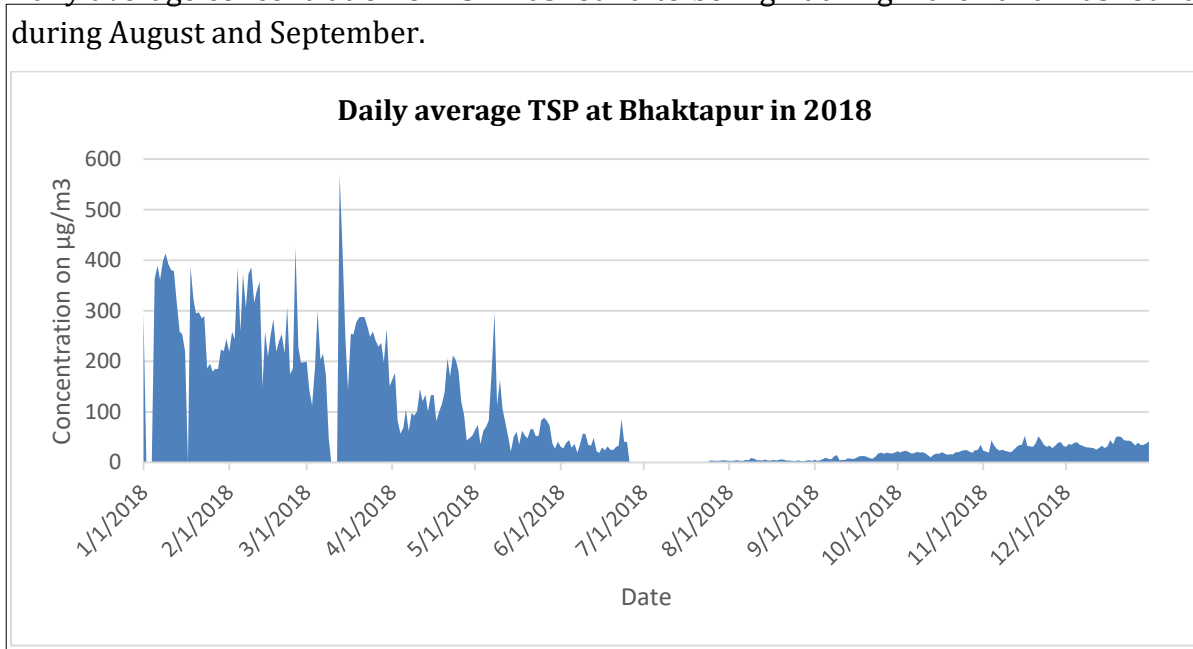


Figure 49: Daily average of TSP

Monthly Average of TSP

The highest and the lowest concentration of TSP was found during January ($293.25 \mu\text{g}/\text{m}^3$) and July ($3.63 \mu\text{g}/\text{m}^3$) respectively.

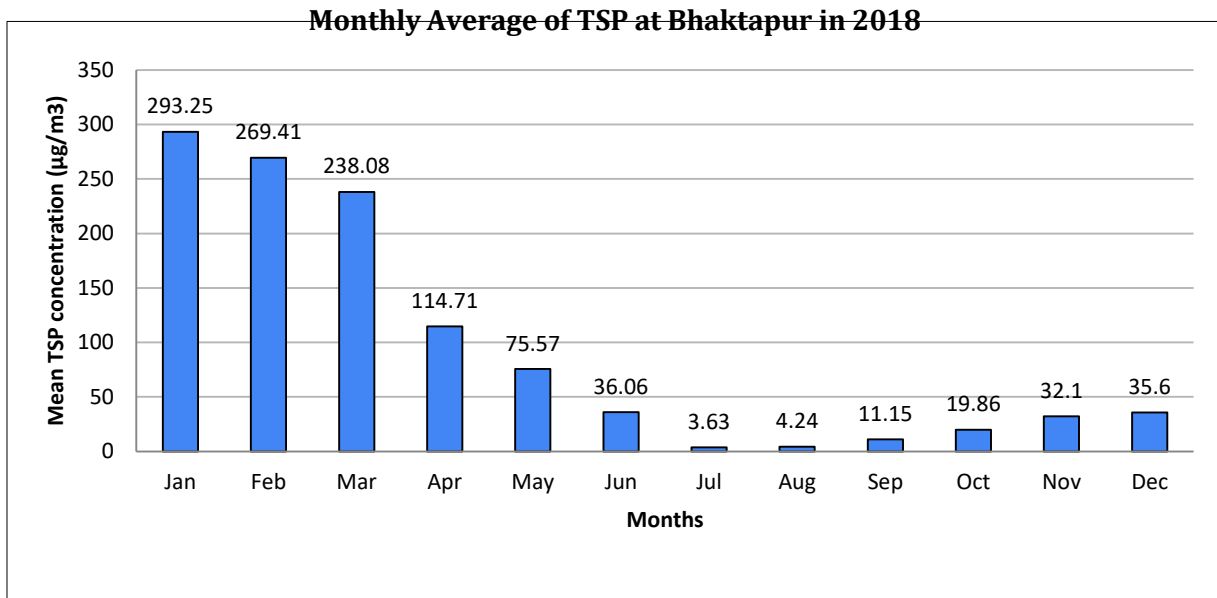


Figure 50: Monthly average of TSP

Variation in concentration of TSP was found more during January and low during July and August.

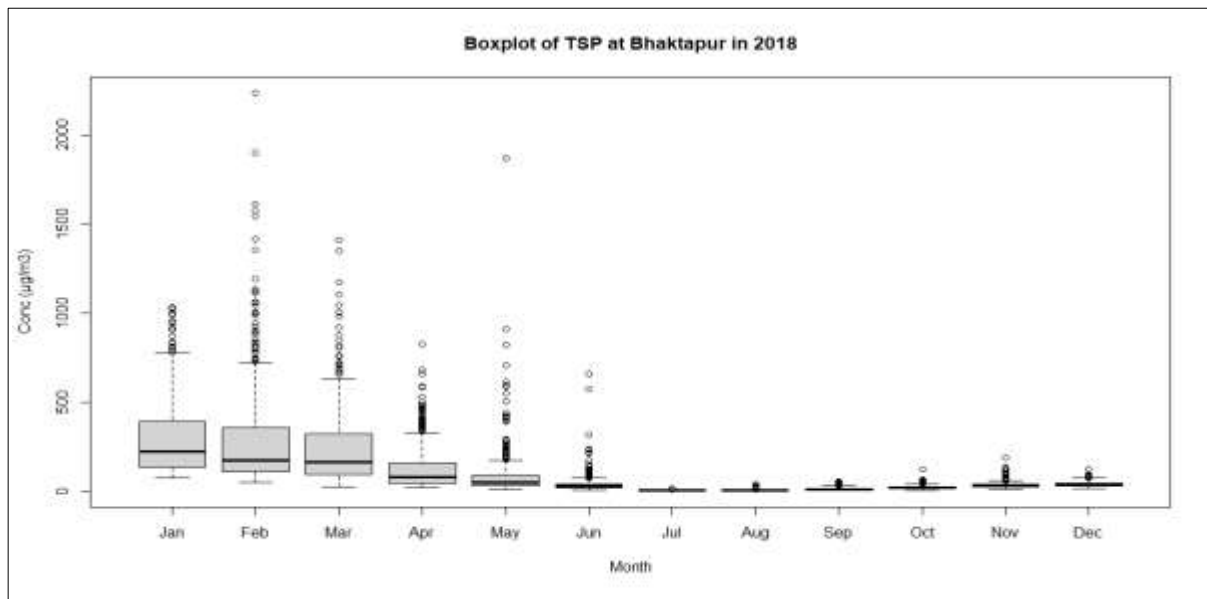


Figure 51: Monthly Variation of TSP

Seasonal Variation of Average TSP concentration

Ambient concentration of average TSP during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be

shown in the figure below. The highest concentration of TSP was found during winter (314.2 $\mu\text{g}/\text{m}^3$) and the lowest concentration was found during monsoon (14.64 $\mu\text{g}/\text{m}^3$).

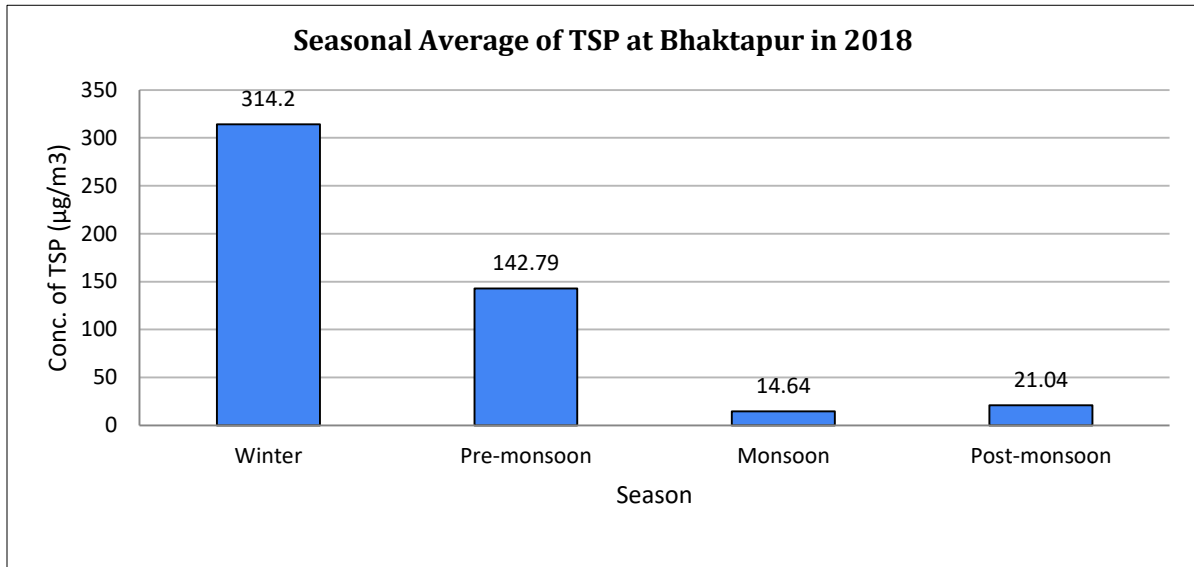


Figure 52: Seasonal variation of TSP

Diurnal Variation of average TSP concentration

The diurnal variation of average TSP concentrations can be shown in the figure below. The variation in TSP concentration was high at 2 to 3 pm and low from 1 to 5 am.

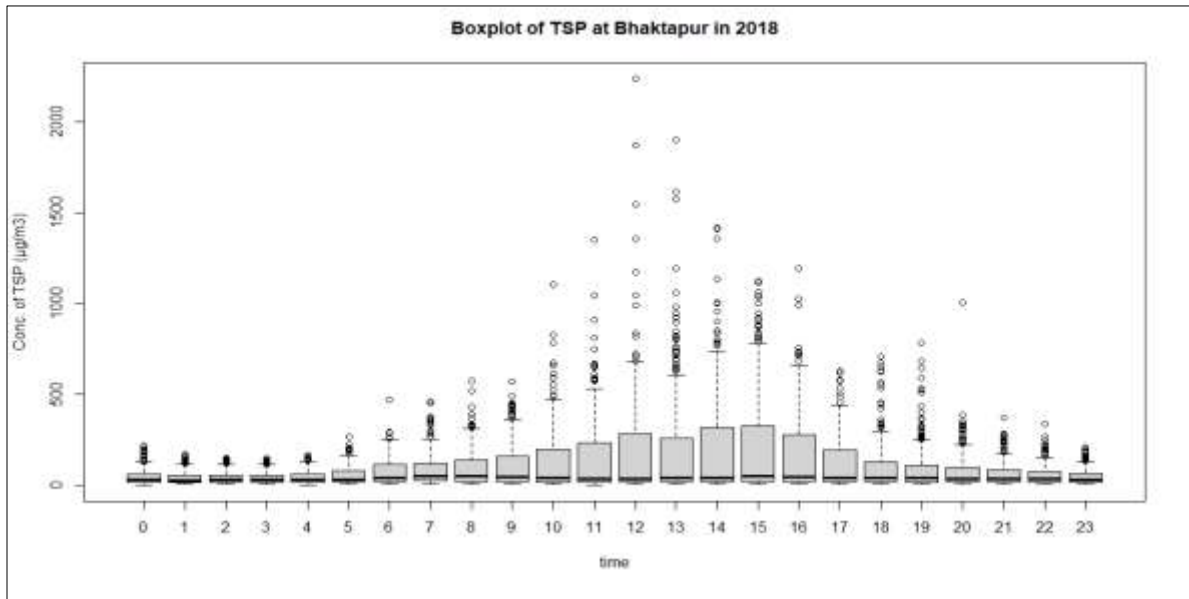


Figure 53: Diurnal variation of average TSP concentration

Compliance Status of TSP

The total days of TSP monitored in the year 2018 counts 329 only, of which 159 days exceeded the NAAQS guideline.

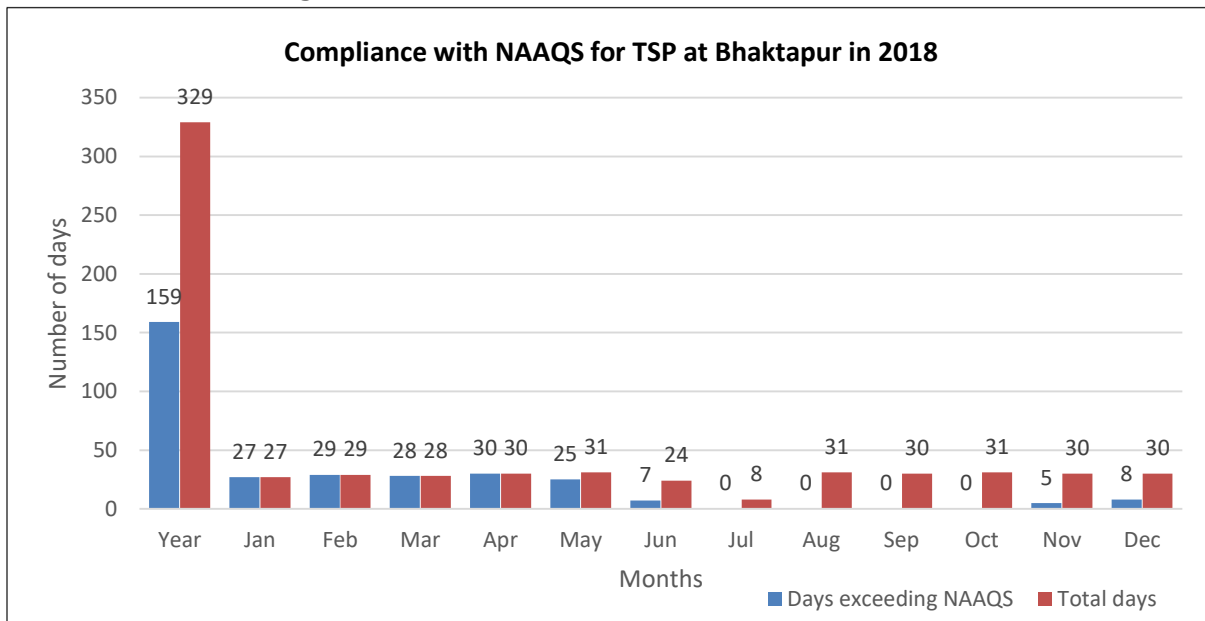


Figure 54: Compliance status of TSP

2.3. Air quality status, 2019

2.3.1. Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP

The annual average of PM₁, PM_{2.5}, PM₁₀ and TSP for the Bhaktapur station was calculated as shown in the figure below.

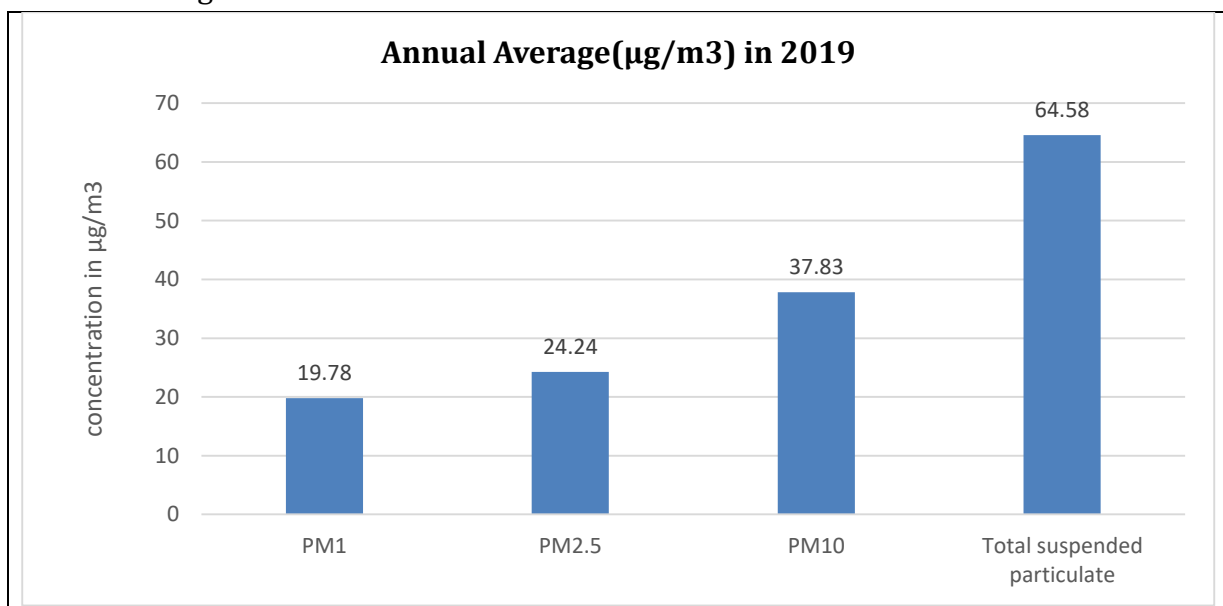


Figure 55: Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP in 2019

2.3.2. Temporal variation of PM₁

Annual average of PM₁

The annual average of PM₁ at Bhaktapur station was observed to be 19.78 $\mu\text{g}/\text{m}^3$ in 2019. Histogram of hourly average PM₁ is shown in the figure below.

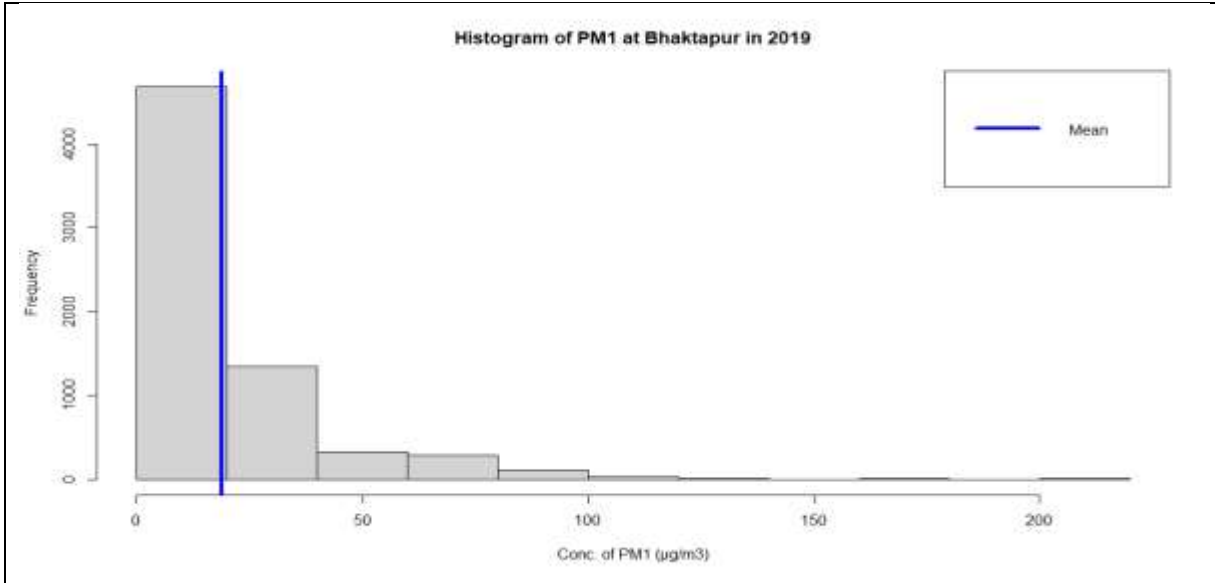


Figure 56 : Histogram for the ambient concentration of PM₁

Daily average of PM₁

Daily average concentration of PM₁ was found to be high during July and low during October.

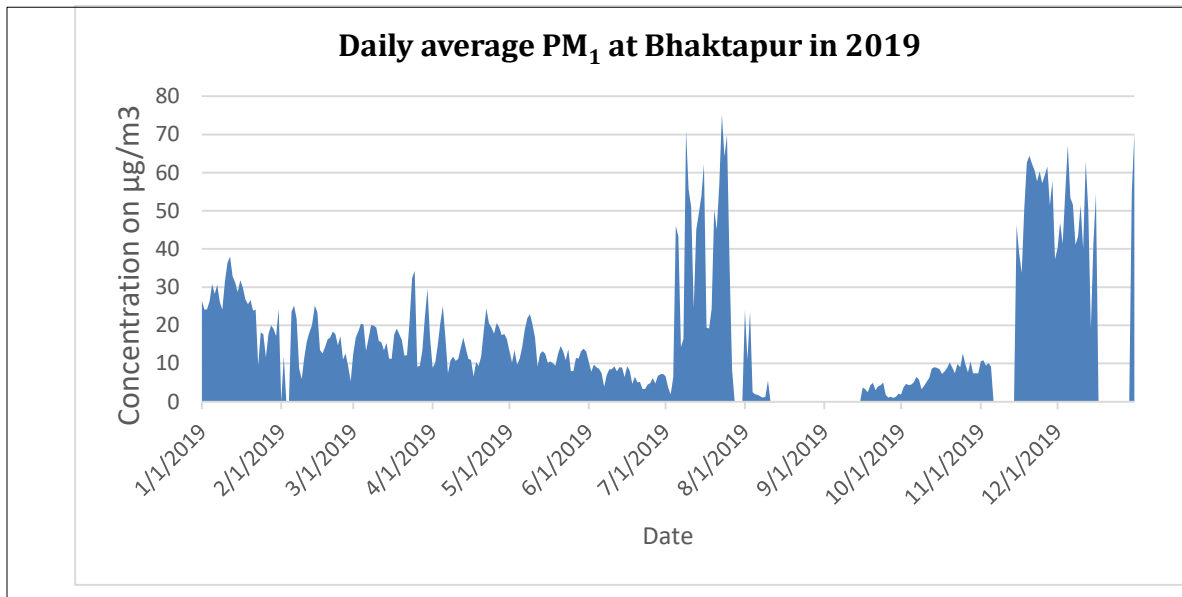


Figure 57: Daily average of PM₁

Monthly average of PM₁

The highest and the lowest concentration of PM₁ was found during December (49.65 µg/m³) and September (2.85 µg/m³) respectively.

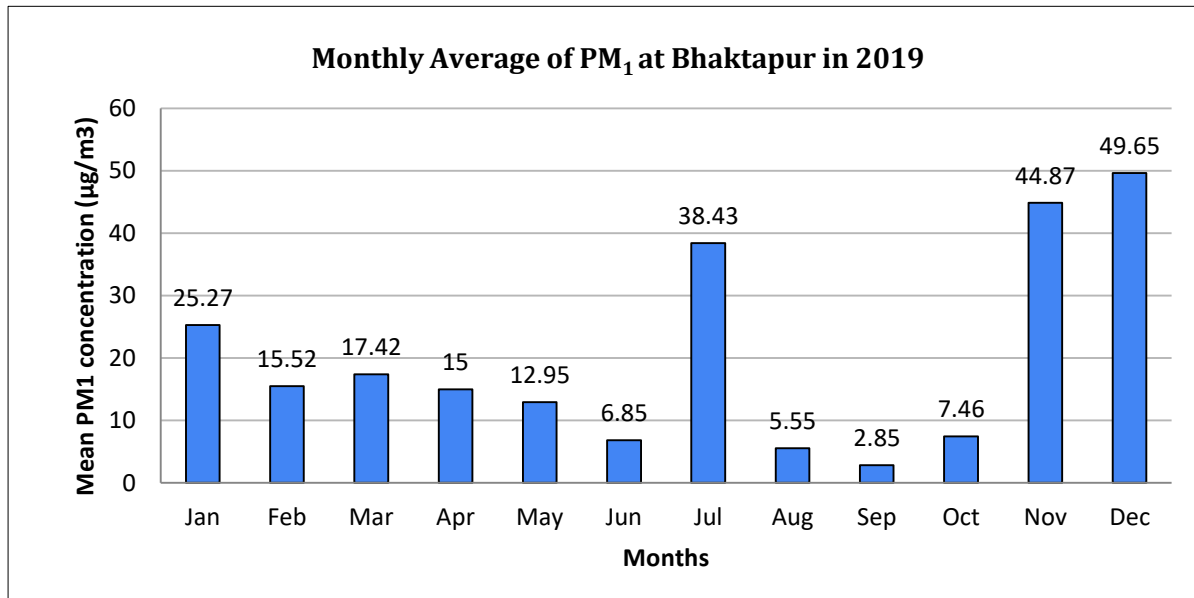


Figure 58: Monthly average of PM₁

Variation in concentration of PM₁ was found more in January and low in November and August.

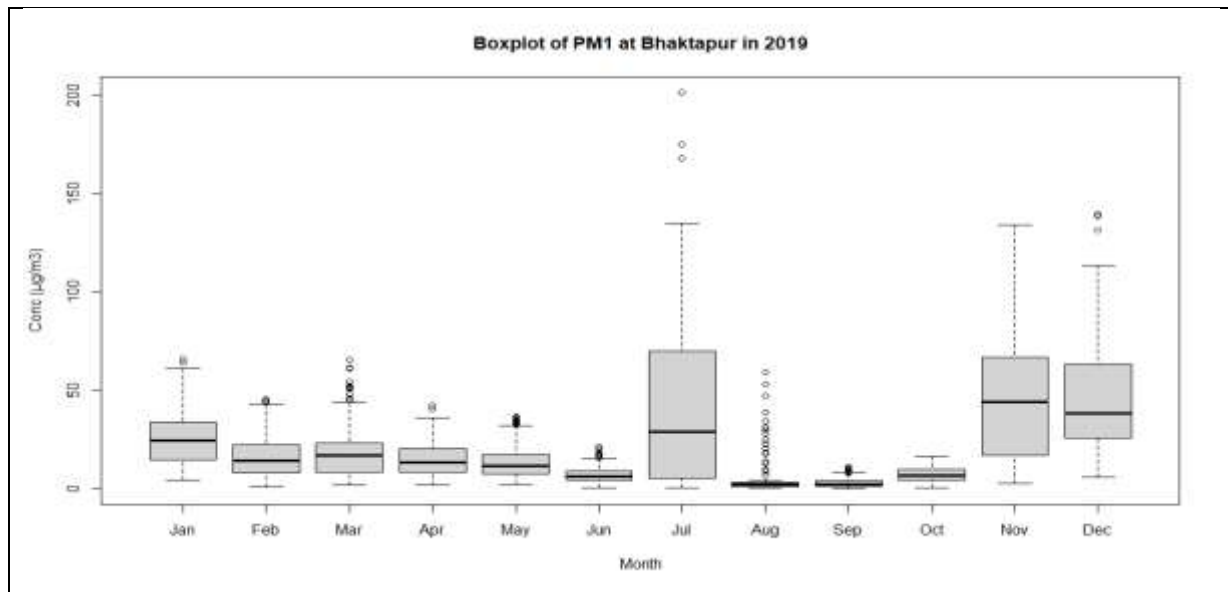


Figure 59: Monthly Variation of PM₁

Seasonal variation of PM₁

Ambient concentration of average PM₁ with four seasons, namely, pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be shown in the figure below. The highest concentration of PM₁



was found in the winter season ($21.54 \mu\text{g}/\text{m}^3$) and lowest was found in monsoon season ($15.13 \mu\text{g}/\text{m}^3$).

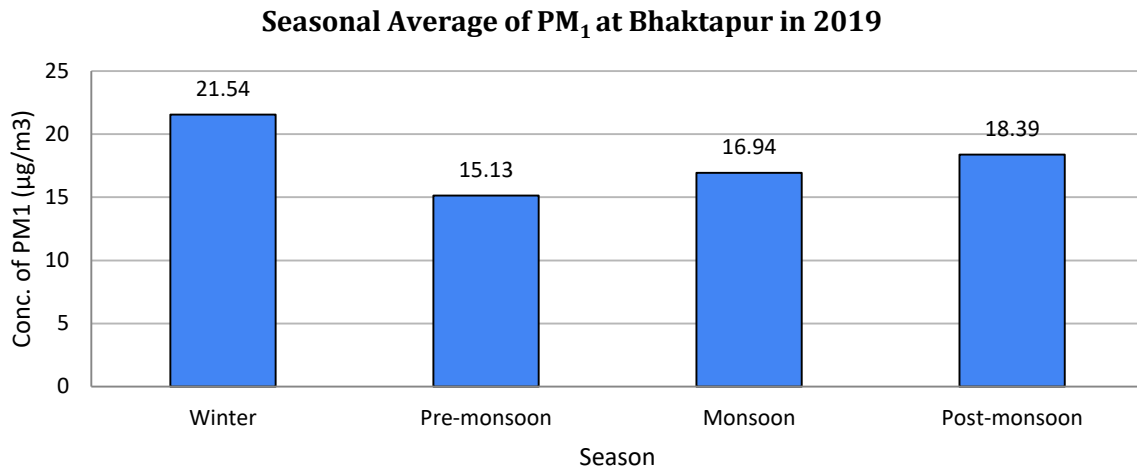


Figure 60: Seasonal variation of PM₁

Diurnal variation of average concentration of PM₁

The diurnal variation of average PM₁ concentration can be shown in the figure below. The variation in PM₁ concentration was high at around 8 am and low during 1 to 3 pm.

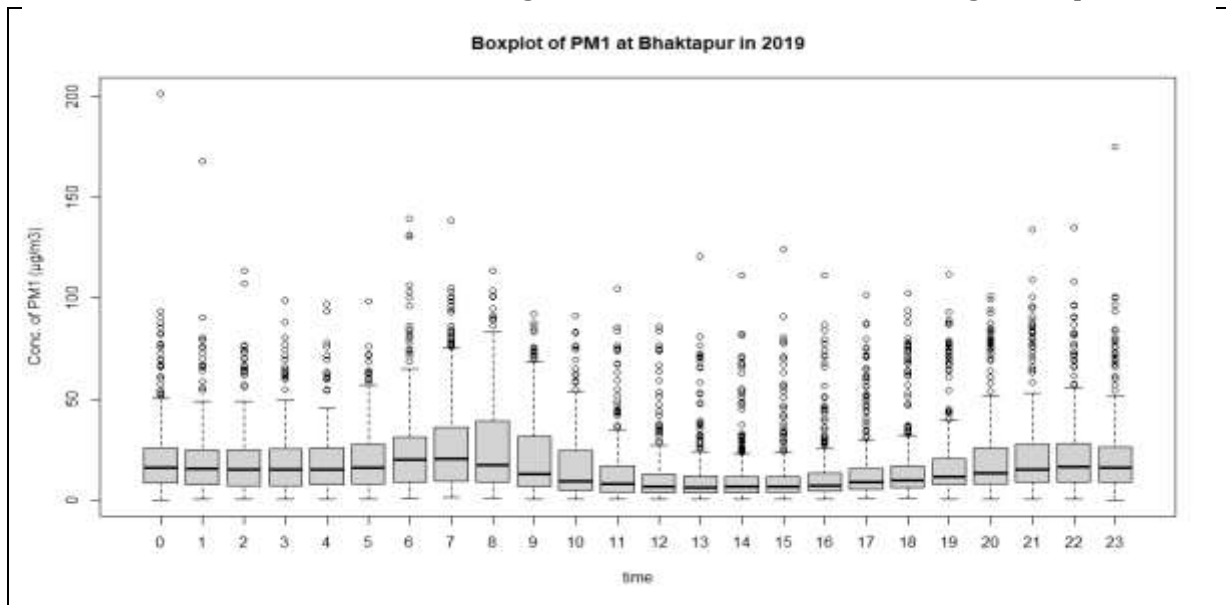


Figure 61: Diurnal variation of average PM₁ concentration

2.3.3. Temporal variation of PM_{2.5}

Annual Average of PM_{2.5}

The annual average of PM_{2.5} at Bhaktapur station was found to be 24.24 µg/m³ in 2019. Histogram of hourly average PM_{2.5} is shown in the figure below.

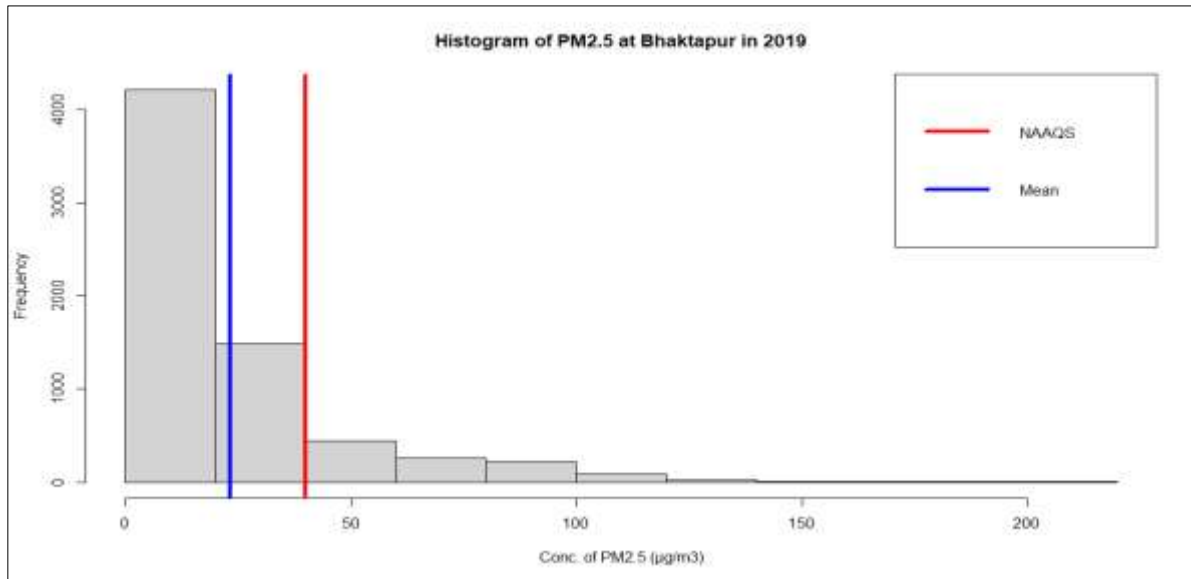


Figure 62 : Histogram for the ambient concentration of PM_{2.5}

Daily Average of PM_{2.5}

Daily average concentration of PM_{2.5} was found to be high during December and was found low during October.

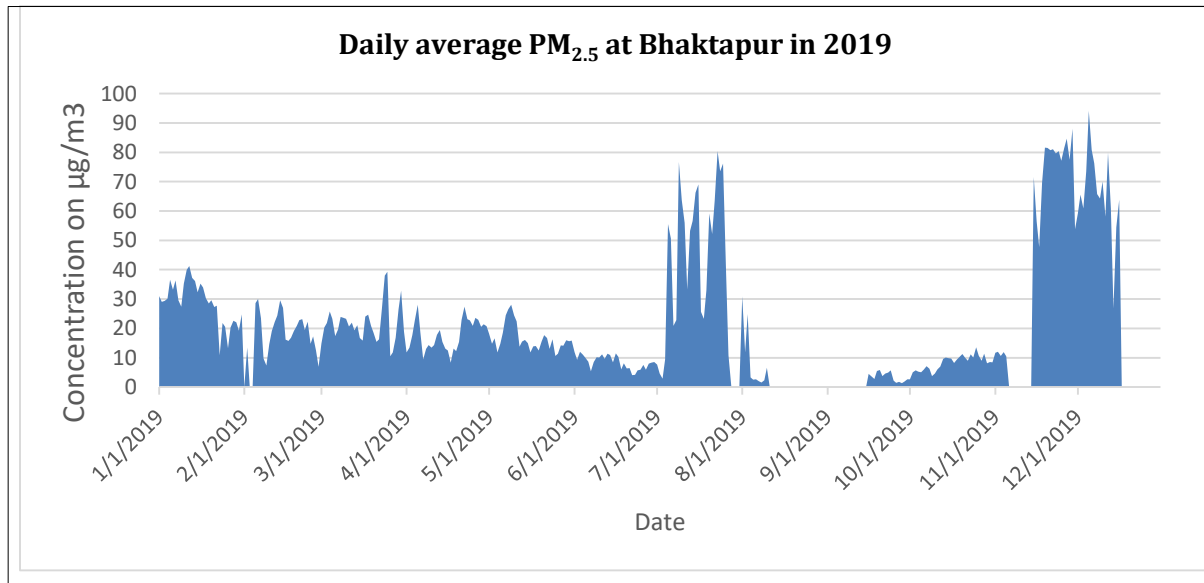


Figure 63: Daily average of PM_{2.5}

Monthly Average of PM_{2.5}

The highest and the lowest concentration of PM_{2.5} was found during December (66.33 µg/m³) and September (3.47 µg/m³) respectively.

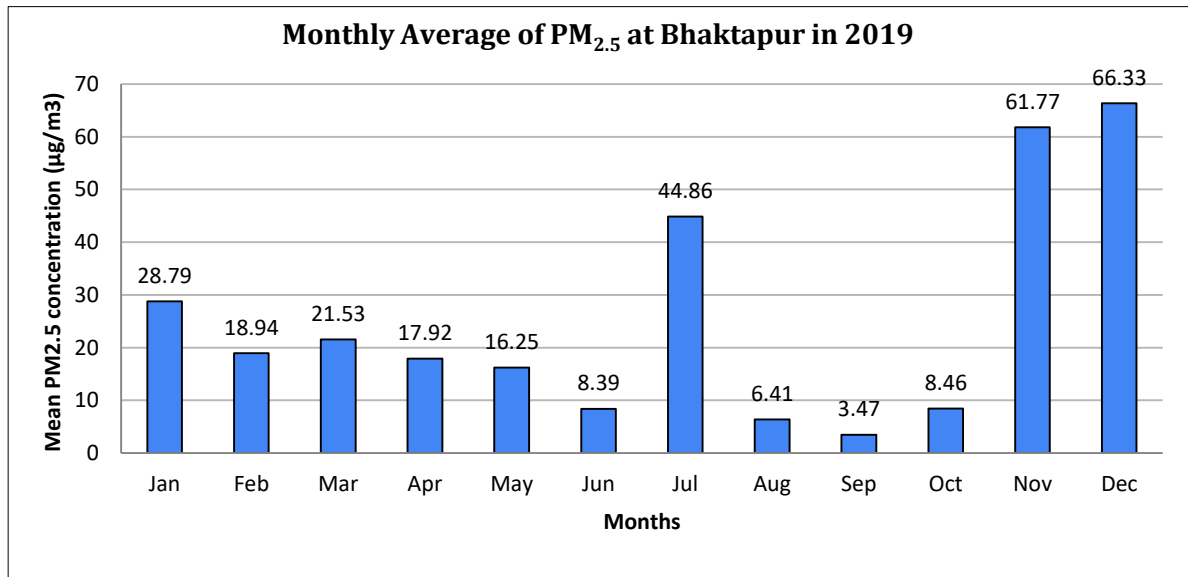


Figure 64: Monthly average of PM_{2.5}

Variation in concentration of PM_{2.5} was found more during November and July and low during September.

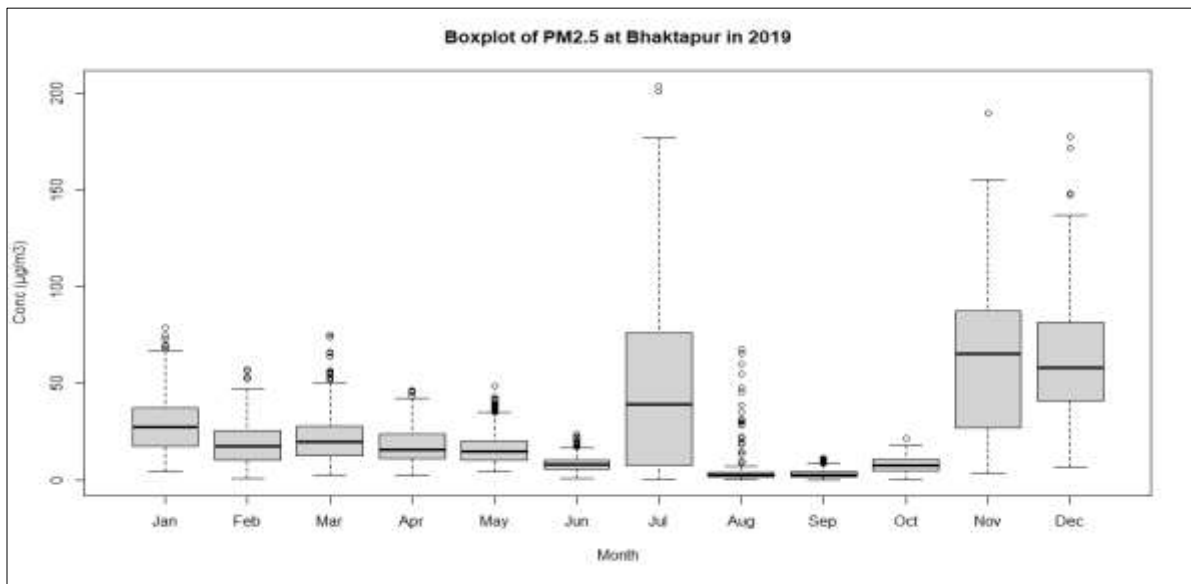


Figure 65: Monthly Variation of PM_{2.5}

Seasonal Variation of Average PM_{2.5} concentration

Ambient concentration of average PM_{2.5} during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be



shown in the figure below. The highest concentration of PM_{2.5} was found during winter (25.11 µg/m³) and the lowest concentration was found during monsoon (18.57 µg/m³).

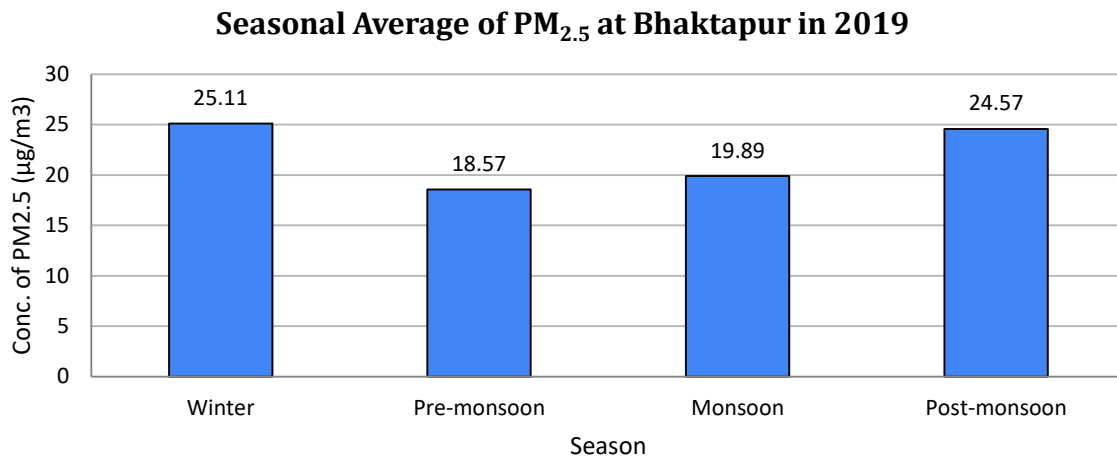


Figure 66: Seasonal variation of PM_{2.5}

Diurnal Variation of average PM_{2.5} concentration

The diurnal variation of average PM_{2.5} concentrations can be shown in the figure below. The variation in PM_{2.5} concentrations was high at around 7 am and low at 1 pm.

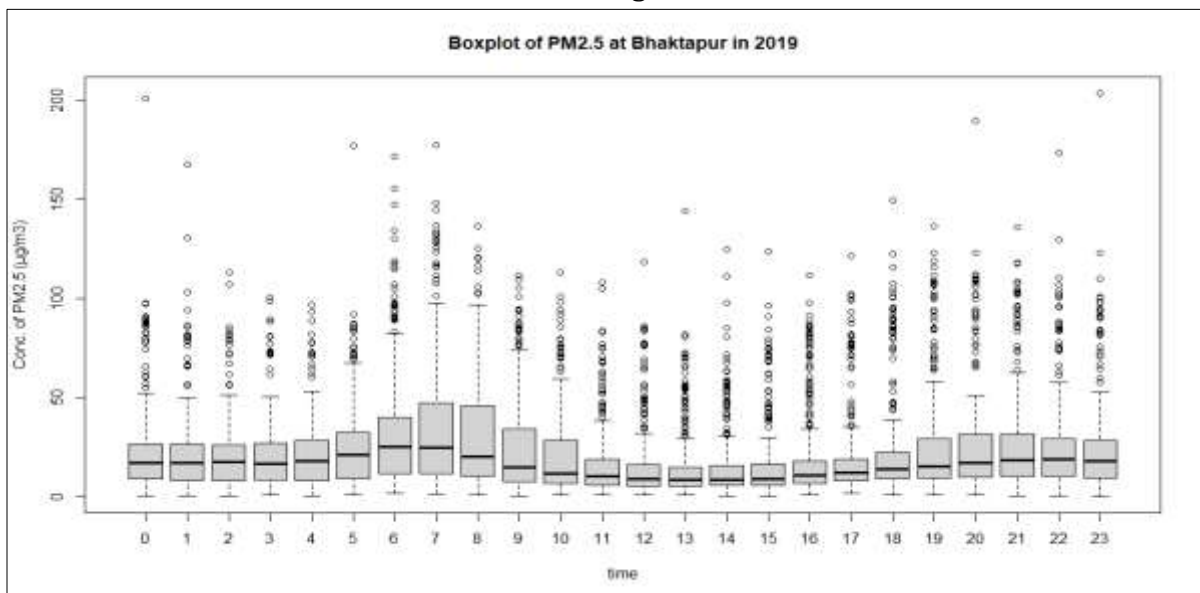


Figure 67: Diurnal variation of average PM_{2.5} concentration

Compliance Status of PM_{2.5}

The total days of PM_{2.5} monitored in the year 2019 counts 298 only, of which 48 days exceed the NAAQS guideline.

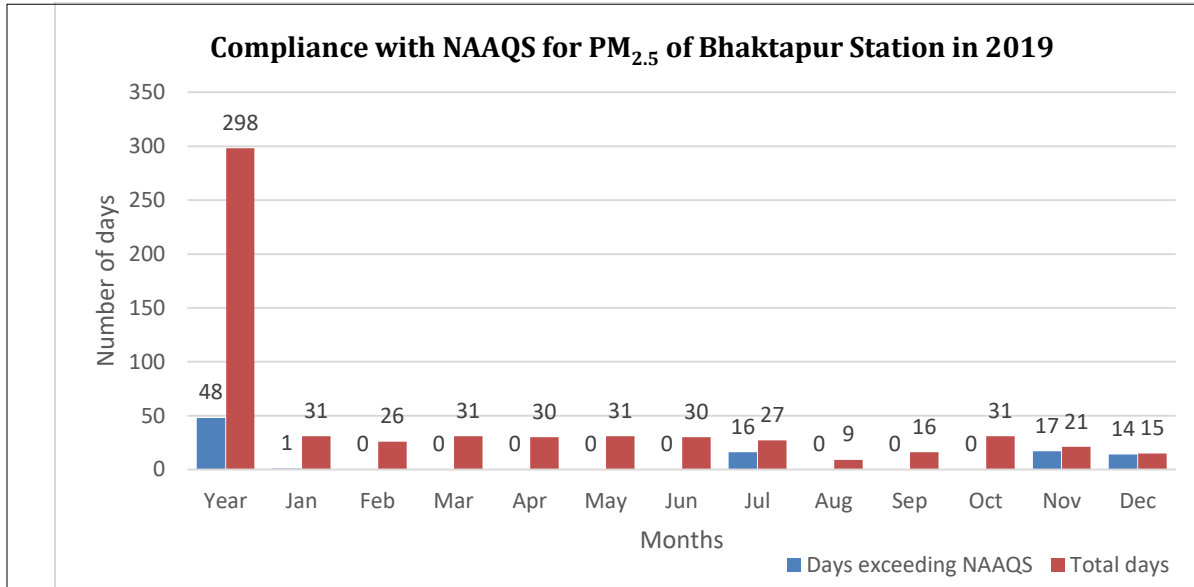


Figure 68: Compliance status of PM_{2.5}.

2.3.4. Temporal variation of PM₁₀

Annual Average of PM₁₀

The annual average of PM₁₀ at Bhaktapur station was found to be 37.83 µg/m³ in 2019. Histogram of hourly average PM₁₀ is shown in the figure below.

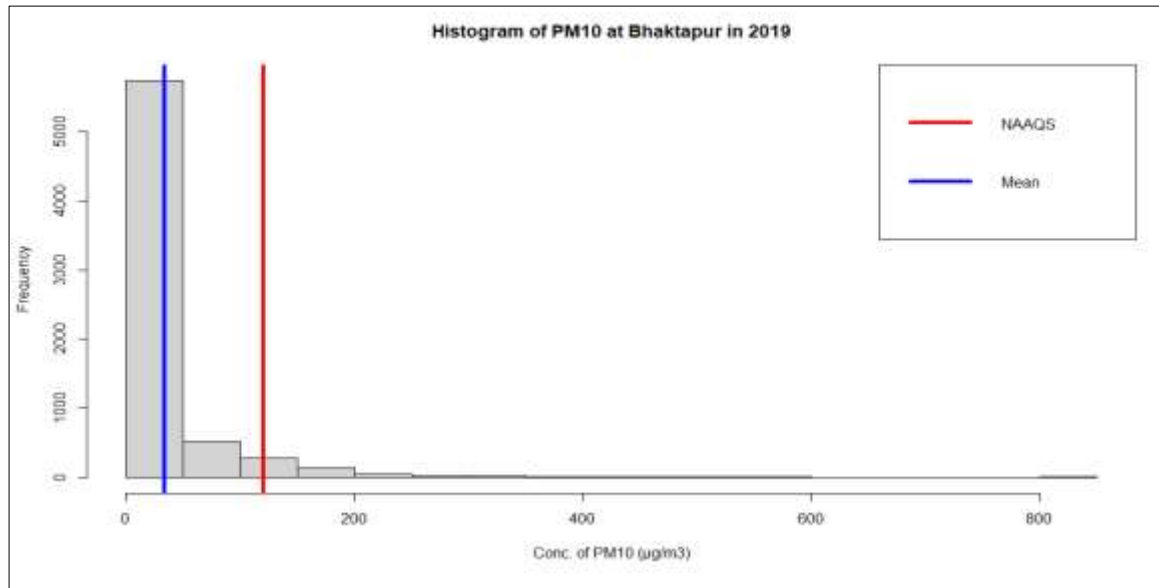


Figure 69: Histogram for the ambient concentration of PM₁₀

Daily Average of PM₁₀

Daily average concentration of PM₁₀ was high during December and was found low during November.

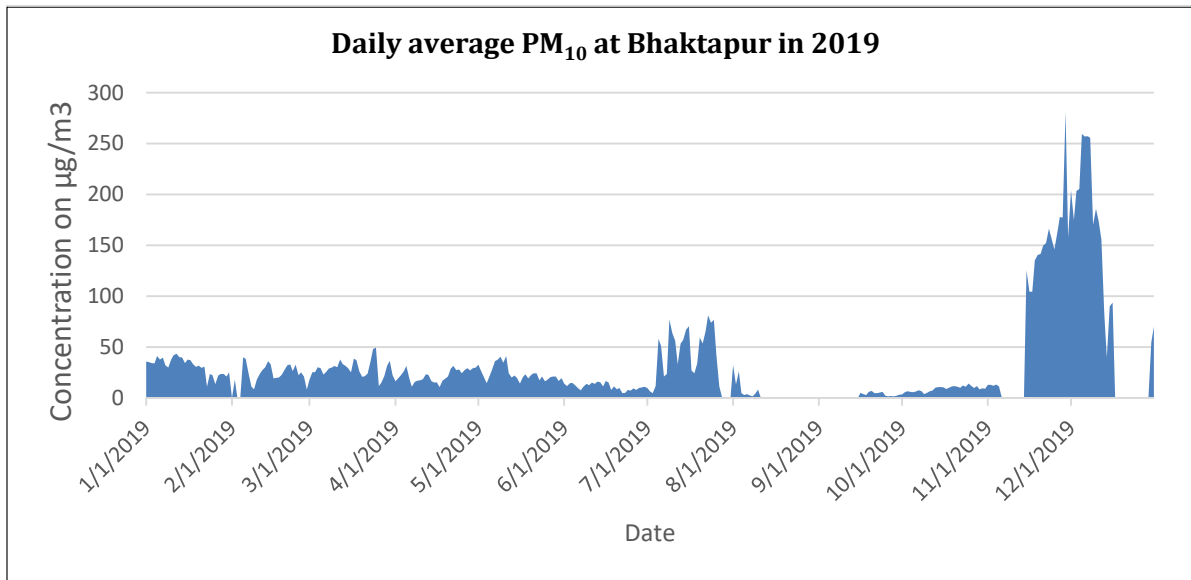


Figure 70: Daily average of PM₁₀

Monthly Average of PM₁₀

The highest and the lowest concentration of PM₁₀ was found during December (160.64 µg/m³) and September (3.86 µg/m³) respectively.

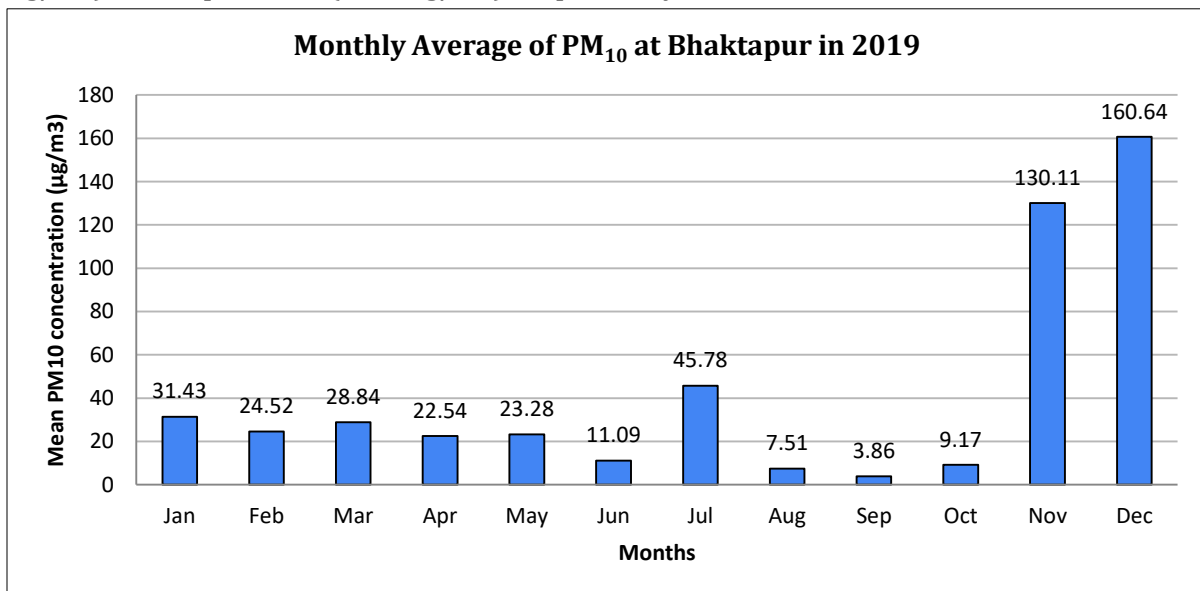


Figure 71: Monthly average of PM₁₀

Variation in concentration of PM₁₀ was found more during November and December and low during August and September.

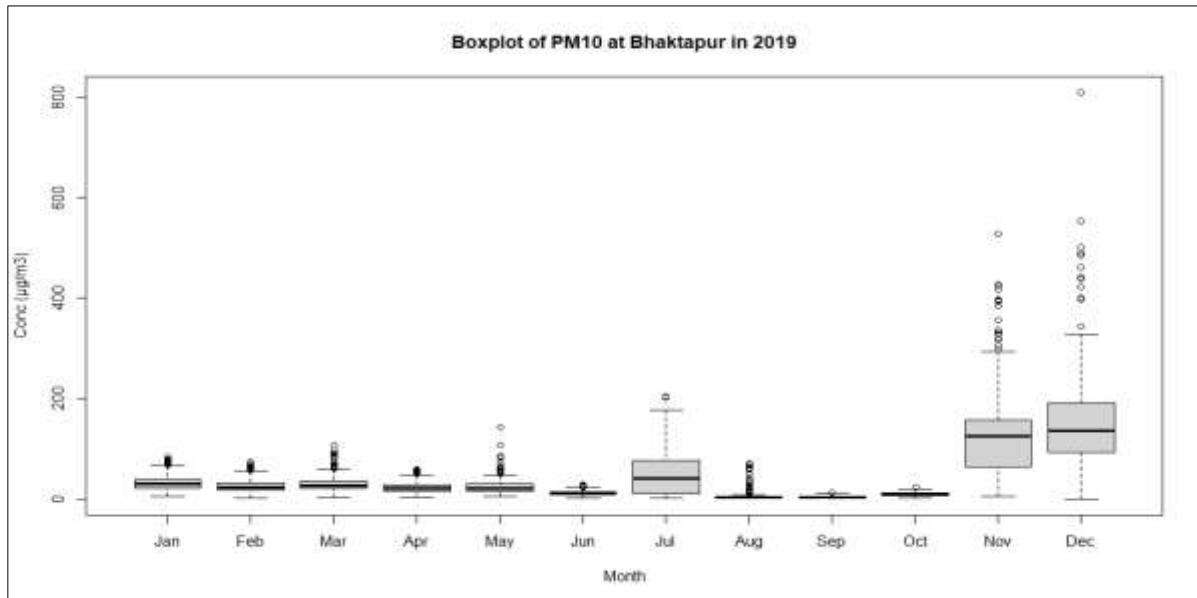


Figure 72: Monthly Variation of PM₁₀

Seasonal Variation of Average PM₁₀ concentration

Ambient concentration of average PM₁₀ during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be shown in the figure below. The highest concentration of PM₁₀ was found during post monsoon (47.71 $\mu\text{g}/\text{m}^3$) and the lowest concentration was found during monsoon (21.46 $\mu\text{g}/\text{m}^3$).

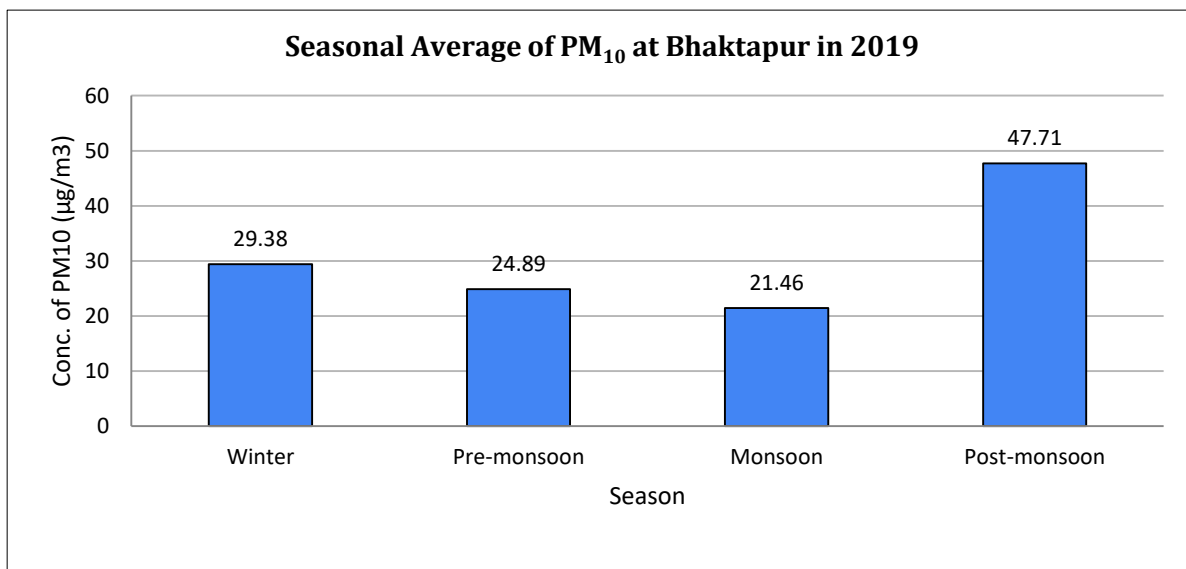


Figure 73: Seasonal variation of PM₁₀

Diurnal Variation of average PM₁₀ concentration

The diurnal variation of average PM₁₀ concentrations can be shown in the figure below. The variation in PM₁₀ concentration was high at around 7 am and low at 1 to 2 pm.

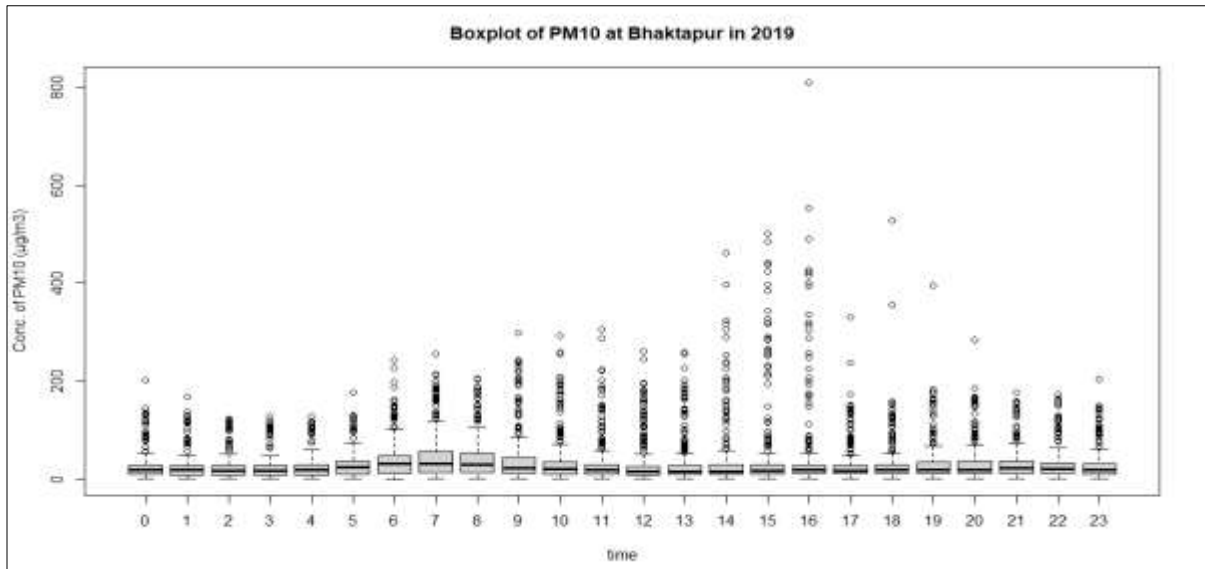


Figure 74: Diurnal variation of average PM₁₀ concentration

Compliance Status of PM₁₀

The total days of PM₁₀ monitored in the year 2019 counts 300 days, of which 26 days exceeded the NAAQS guideline.

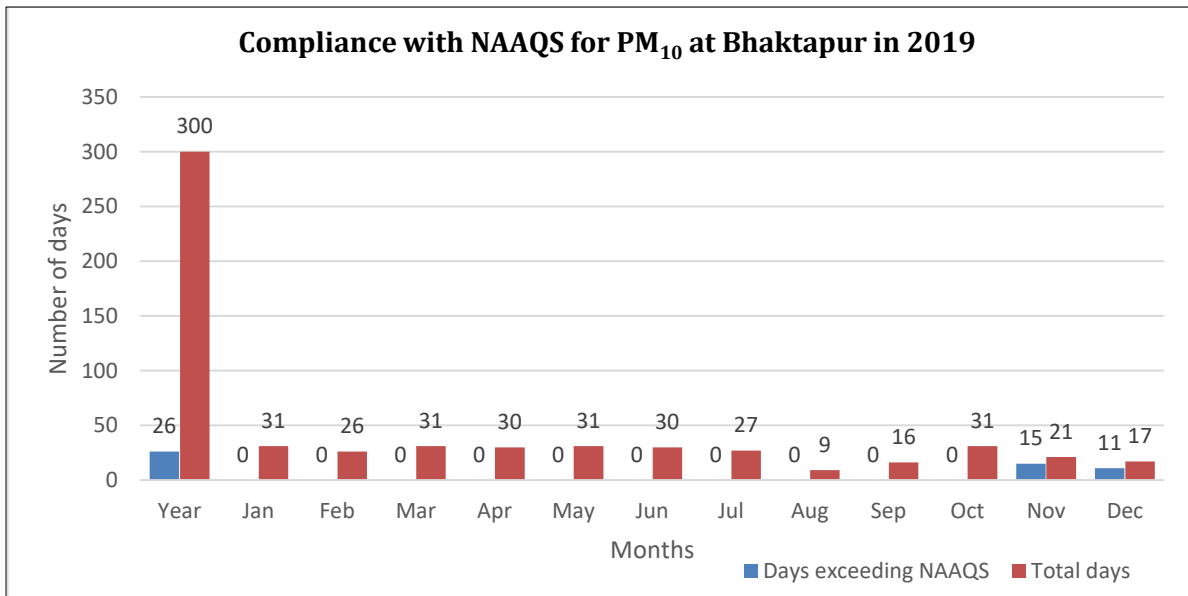


Figure 75: Compliance status of PM₁₀

2.3.5. Temporal variation of TSP

Annual Average of TSP

The annual average of TSP at Bhaktapur station was found to be $64.58 \mu\text{g}/\text{m}^3$ in 2019. Histogram of hourly average TSP is shown in the figure below.

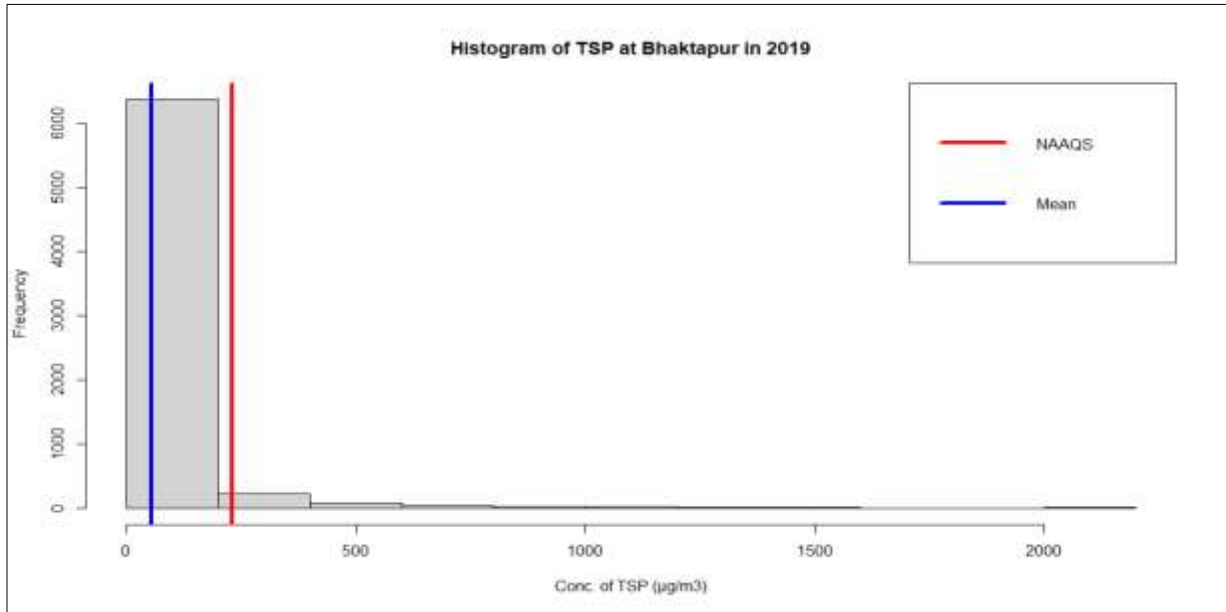


Figure 76: Histogram for the ambient concentration of TSP

Daily Average of TSP

Daily average concentration of TSP was found to be high during December and was found low during most of the remaining months.

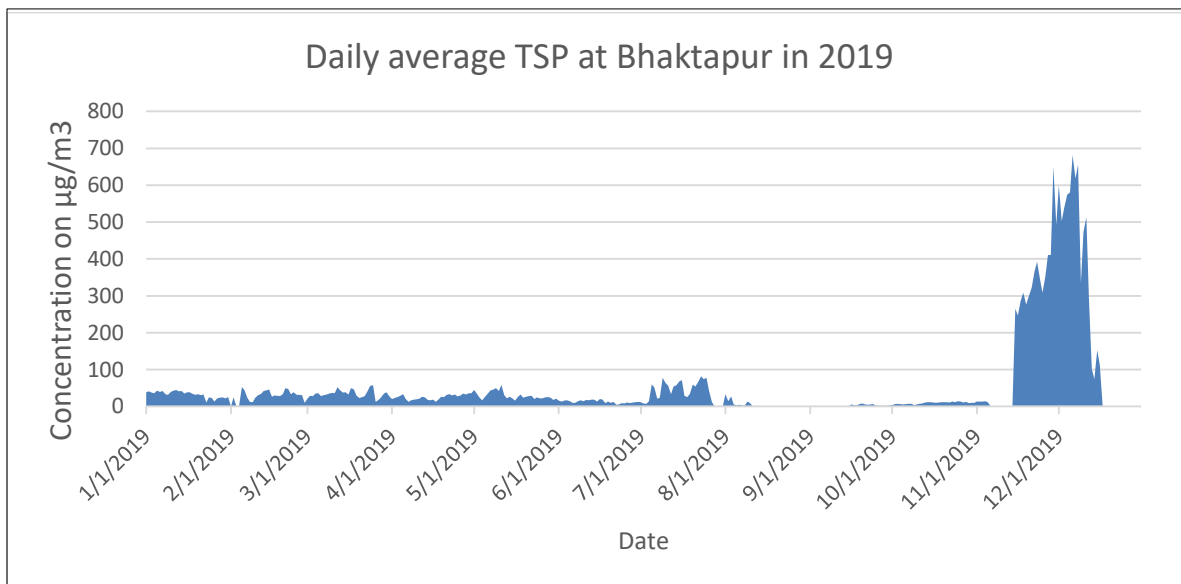


Figure 77: Daily average of TSP

Monthly Average of TSP

The highest and the lowest concentration of TSP was found in December (413.81 $\mu\text{g}/\text{m}^3$) and September (4.15 $\mu\text{g}/\text{m}^3$) respectively.

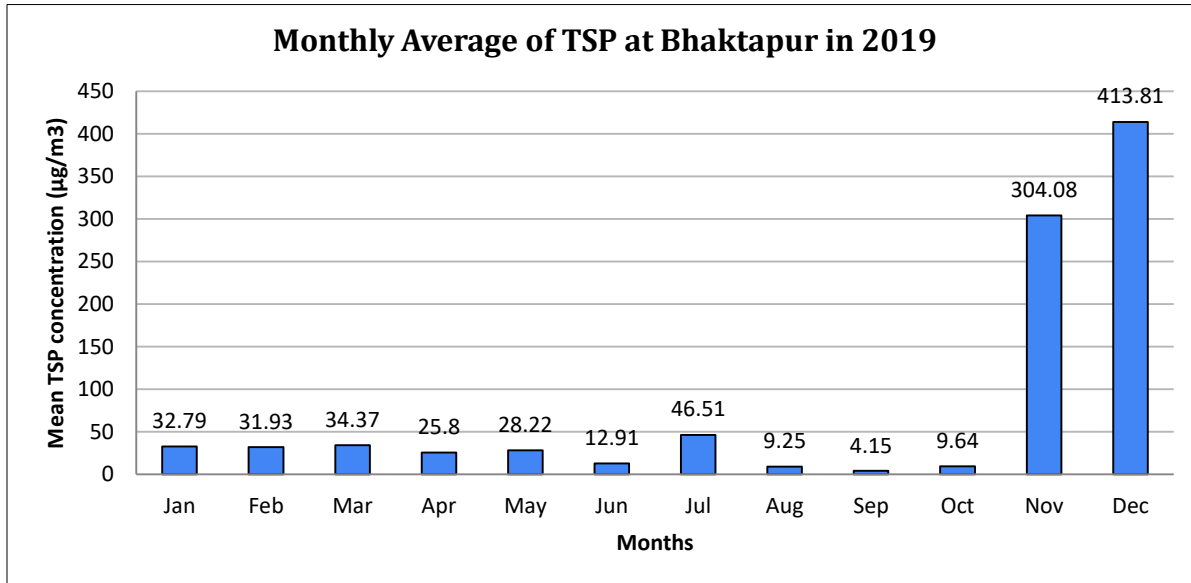


Figure 78: Monthly average of TSP

Variation in concentration of TSP was found more during December and low during September and October.

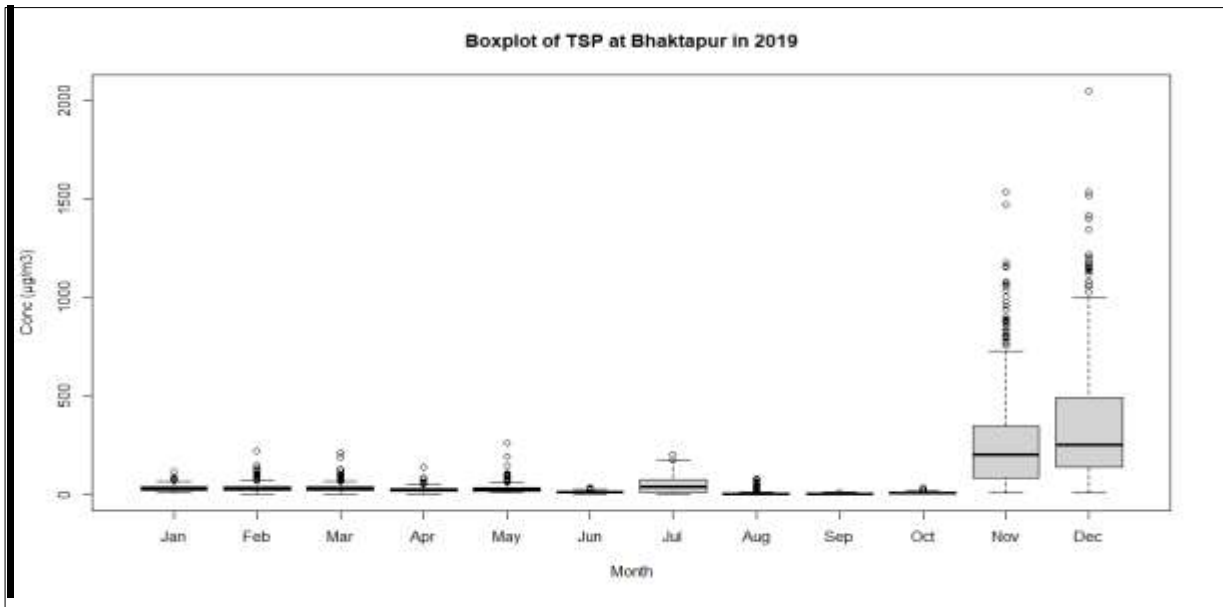


Figure 79: Monthly Variation of TSP

Seasonal Variation of Average TSP concentration

Ambient concentration of average TSP during pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February) can be

shown in the figure below. The highest concentration of TSP was found during post monsoon (105.96 $\mu\text{g}/\text{m}^3$) and the lowest concentration was found during monsoon (22.89 $\mu\text{g}/\text{m}^3$).

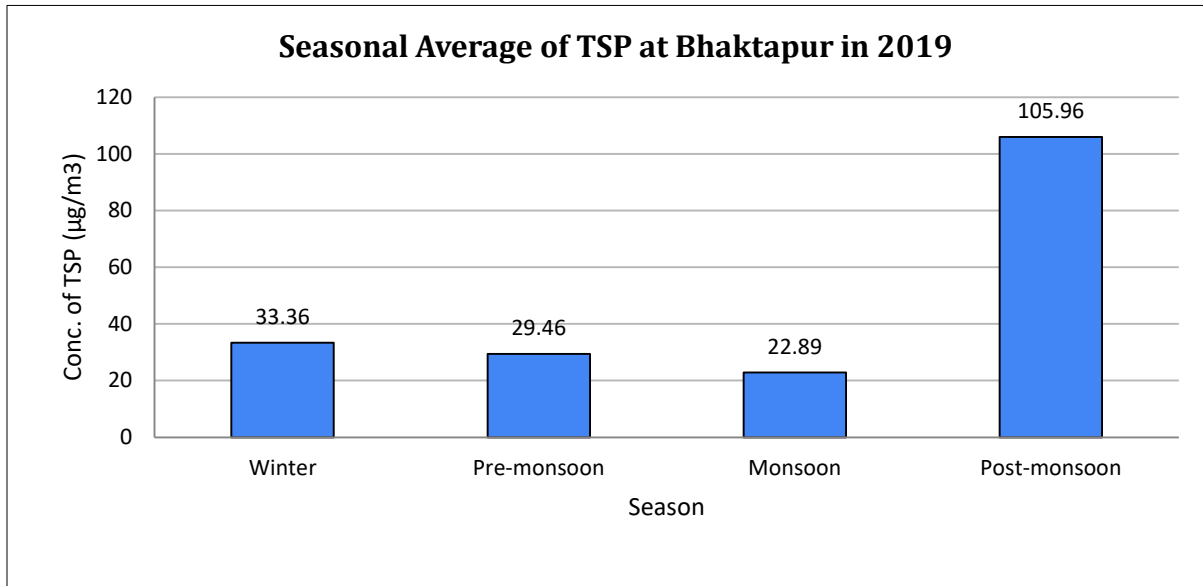


Figure 80: Seasonal variation of TSP

Diurnal Variation of average TSP concentration

The diurnal variation of average TSP concentrations can be shown in the figure below. The variation in TSP has remained almost constant throughout the time. However, the concentration was slightly high at 7 am and low at 3 pm.

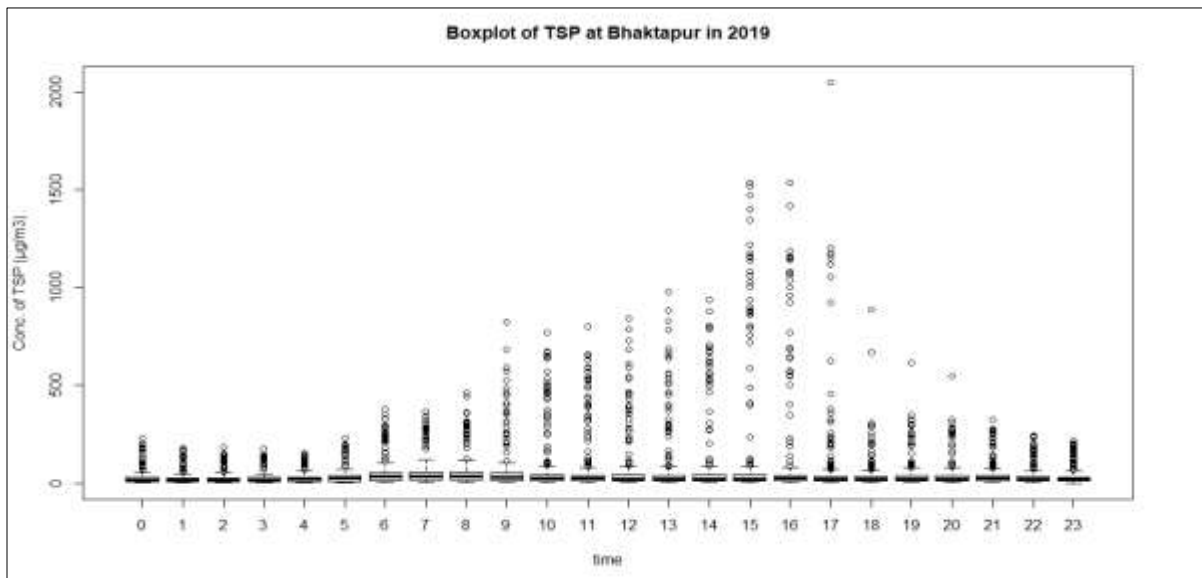


Figure 81: Diurnal variation of average TSP concentration

Compliance Status of TSP

The total days of TSP monitored in the year 2019 counts 298, of which 28 days exceeded the NAAQS guideline.

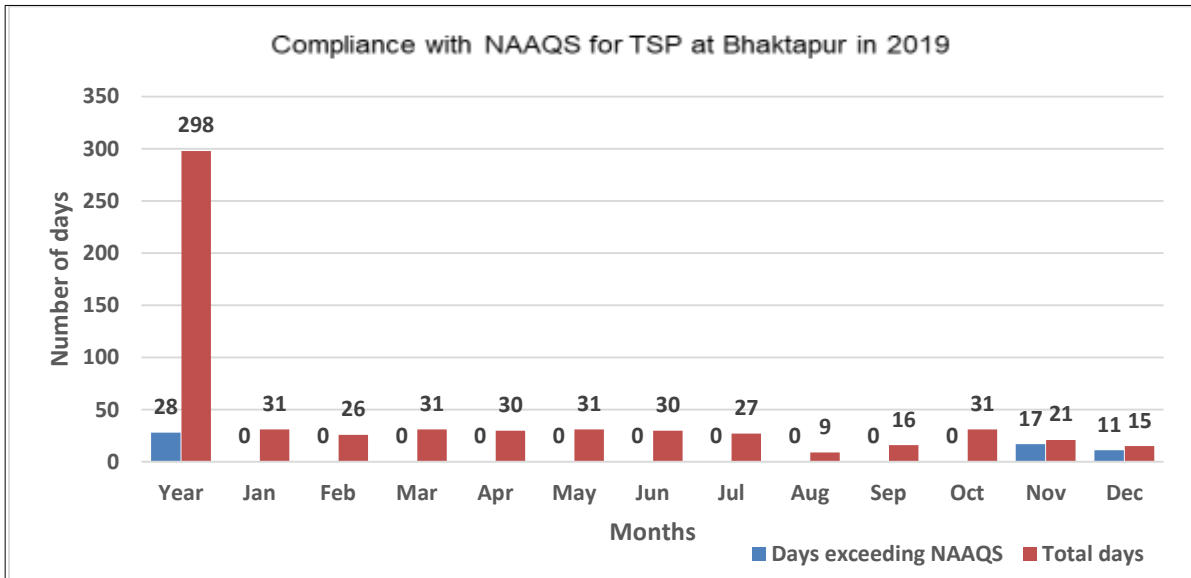


Figure 82: Compliance status of TSP

2.4. Air quality status, 2020

2.4.1. Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP

The annual average of PM₁, PM_{2.5}, PM₁₀ and TSP for the Bhaktapur station was calculated as shown in the figure below.

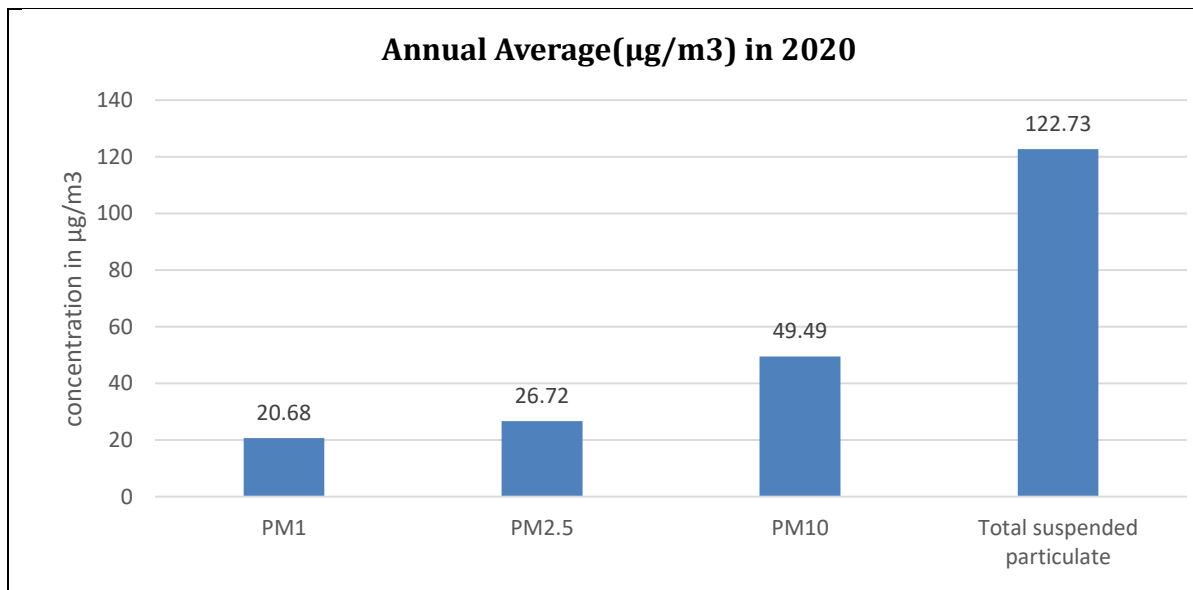


Figure 83: Annual average of PM₁, PM_{2.5}, PM₁₀ and TSP in 2020

2.4.2. Temporal variation of PM₁

Annual average of PM₁

The annual average of PM₁ at Bhaktapur station was observed to be 20.68 µg/m³ in 2020. Histogram of hourly average PM₁ is shown in the figure below.

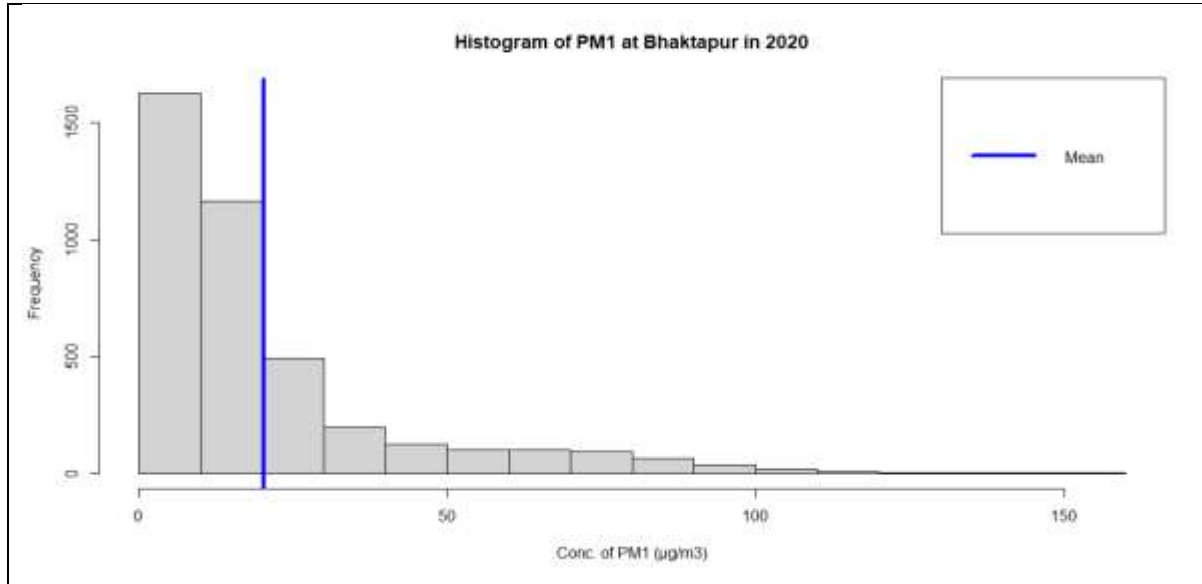


Figure 84 : Histogram for the ambient concentration of PM₁

Daily average of PM₁

Daily average concentration of PM₁ was found to be high during July and low during October as shown in the figure below.

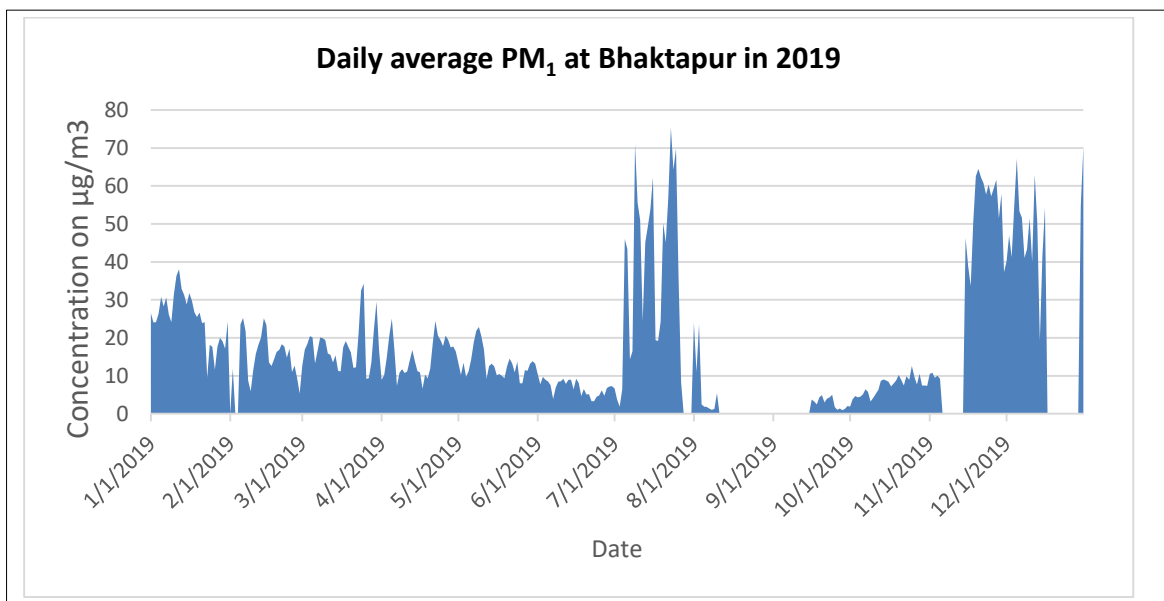


Figure 85: Daily average of PM₁

Monthly average of PM₁

The highest and the lowest concentration of PM₁ was found during February (65.02 µg/m³) and August (7.65 µg/m³) respectively.

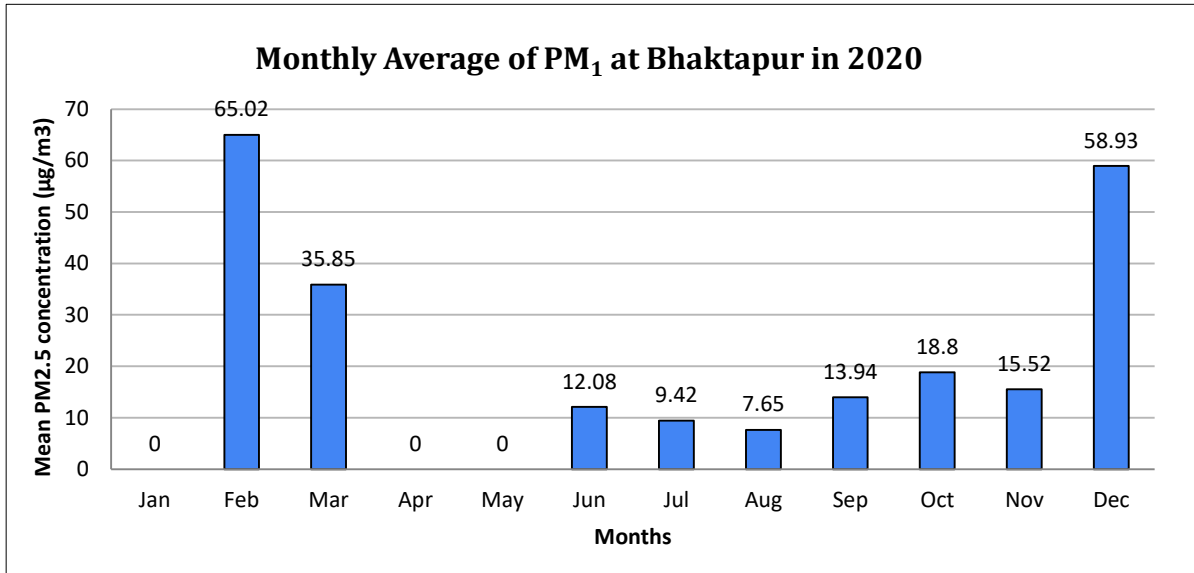


Figure 86: Monthly average of PM₁

Variation in concentration of PM₁ was found more in February and low in August.

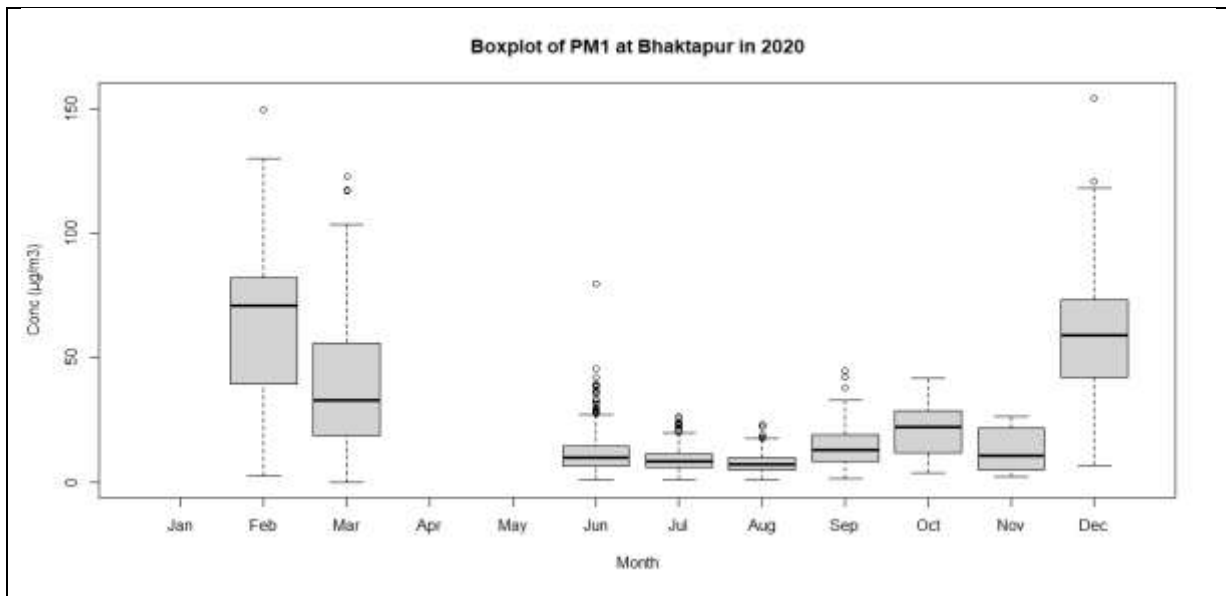


Figure 87: Monthly Variation of PM₁

Seasonal variation of PM₁

Ambient concentration of average PM₁ with only two seasons, namely monsoon (June-September) and post-monsoon (October-November) can only be shown in the figure below.

Among the two seasons displayed, post monsoon had higher concentration ($16.09 \mu\text{g}/\text{m}^3$) than the monsoon season ($9.72 \mu\text{g}/\text{m}^3$).

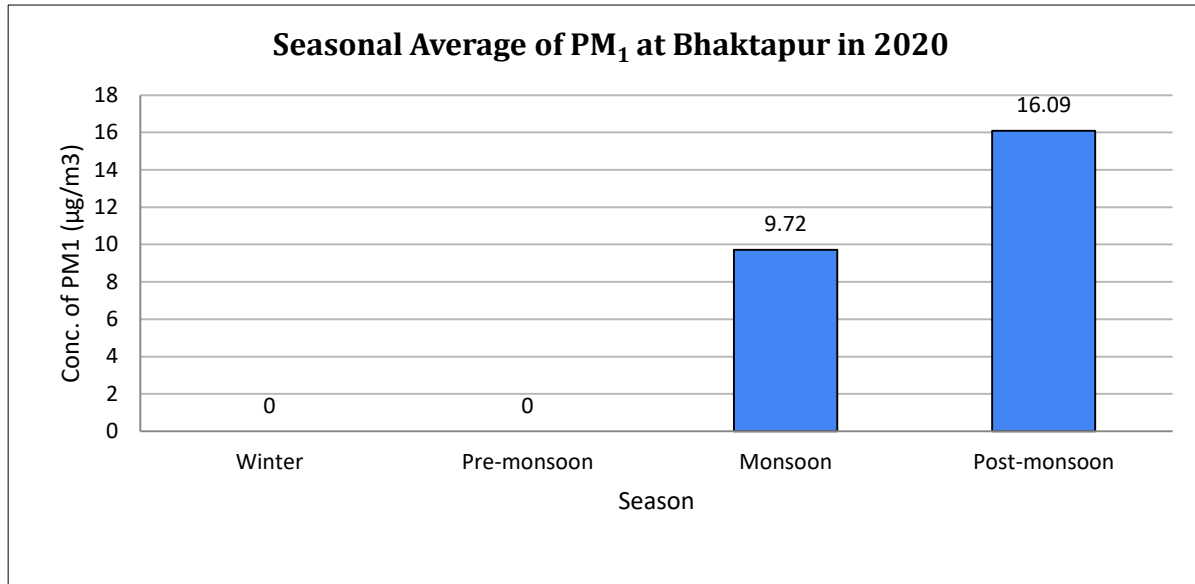


Figure 88: Seasonal variation of PM₁

Diurnal variation of average concentration of PM₁

The diurnal variation of average PM₁ concentration can be shown in the figure below. The variation in PM₁ concentration was high at 7 am and low at 12 to 2 pm.

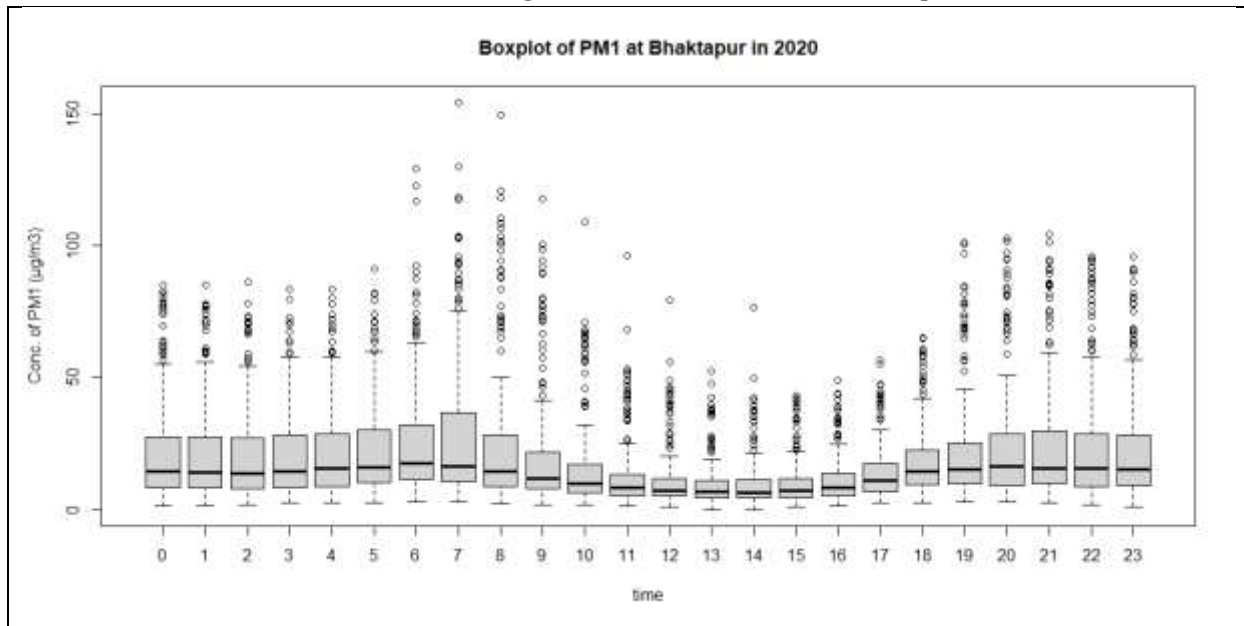


Figure 89: Diurnal variation of average PM₁ concentration

2.4.3. Temporal variation of PM_{2.5}

Annual Average of PM_{2.5}

The annual average of PM_{2.5} at Bhaktapur station was found to be 26.72 µg/m³ in 2020. Histogram of hourly average PM_{2.5} is shown in the figure below.

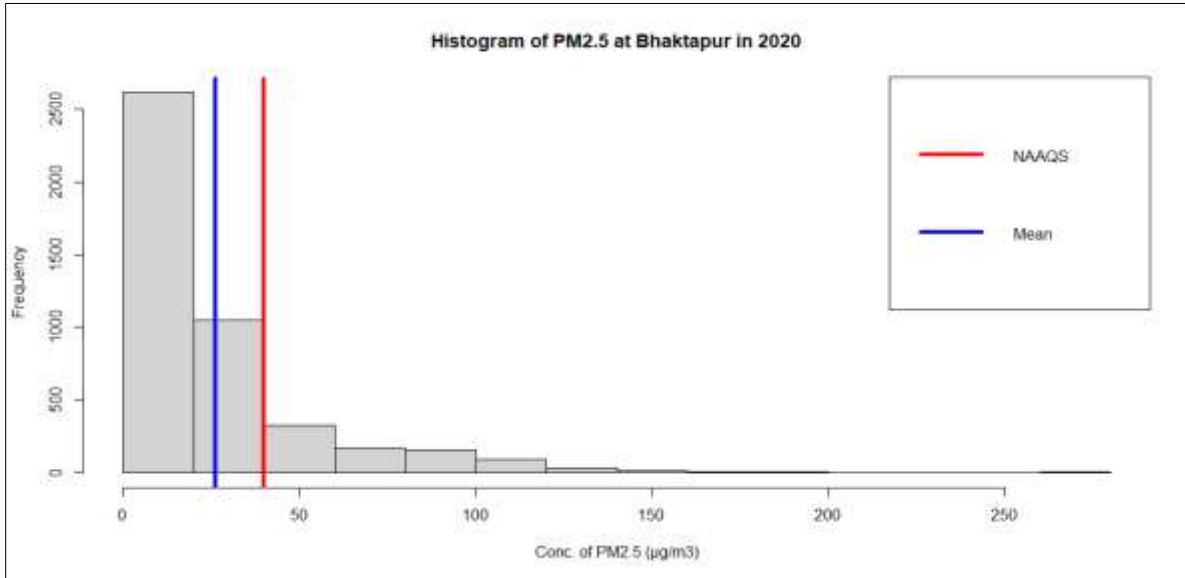


Figure 90 : Histogram for the ambient concentration of PM_{2.5}

Daily Average of PM_{2.5}

Daily average concentration of PM_{2.5} was high during December and was found low during July.

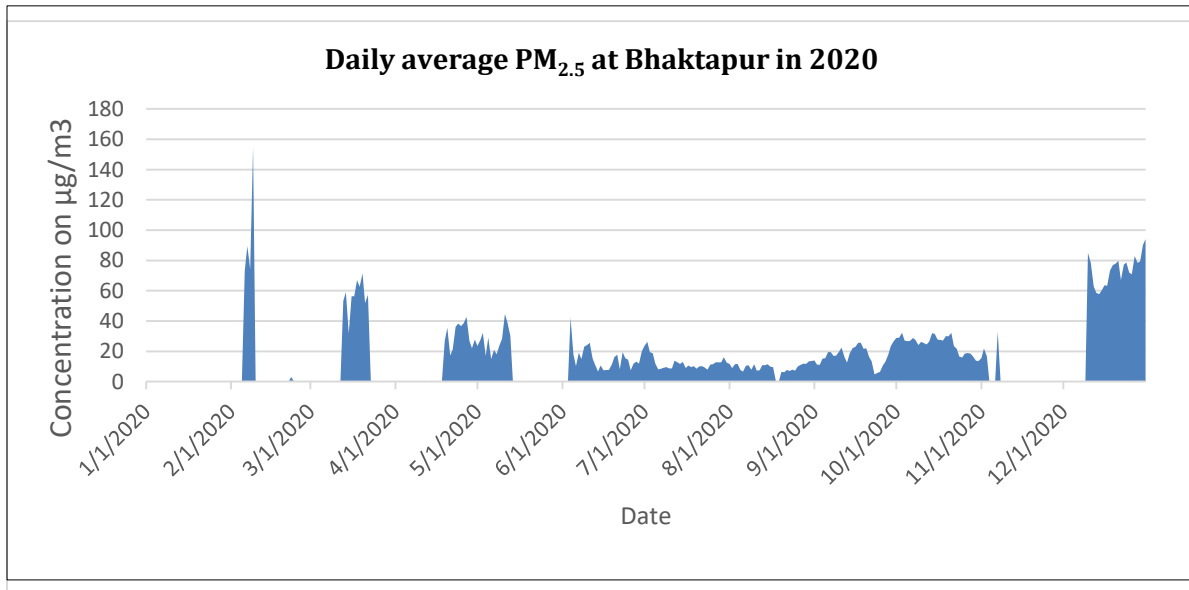


Figure 91: Daily average of PM_{2.5} Monthly Average of PM_{2.5}

The highest and the lowest concentration of PM_{2.5} was found during February (78.83 µg/m³) and August (9.67 µg/m³) respectively.

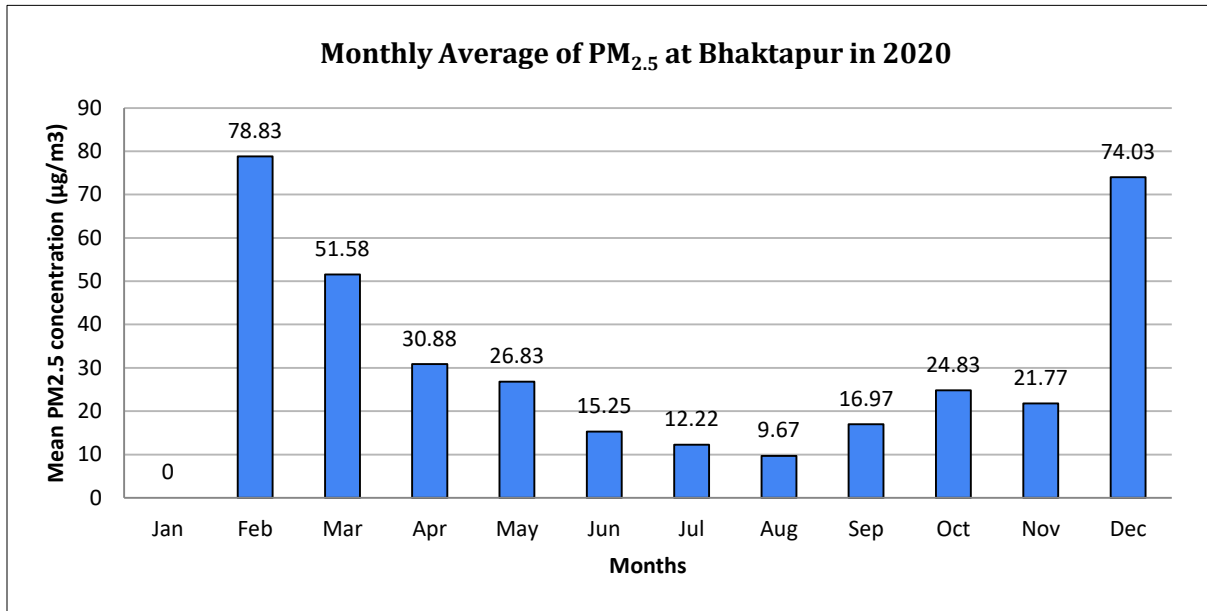


Figure 92: Monthly average of PM_{2.5}

Variation in concentration of PM_{2.5} was found more during February and low during August.

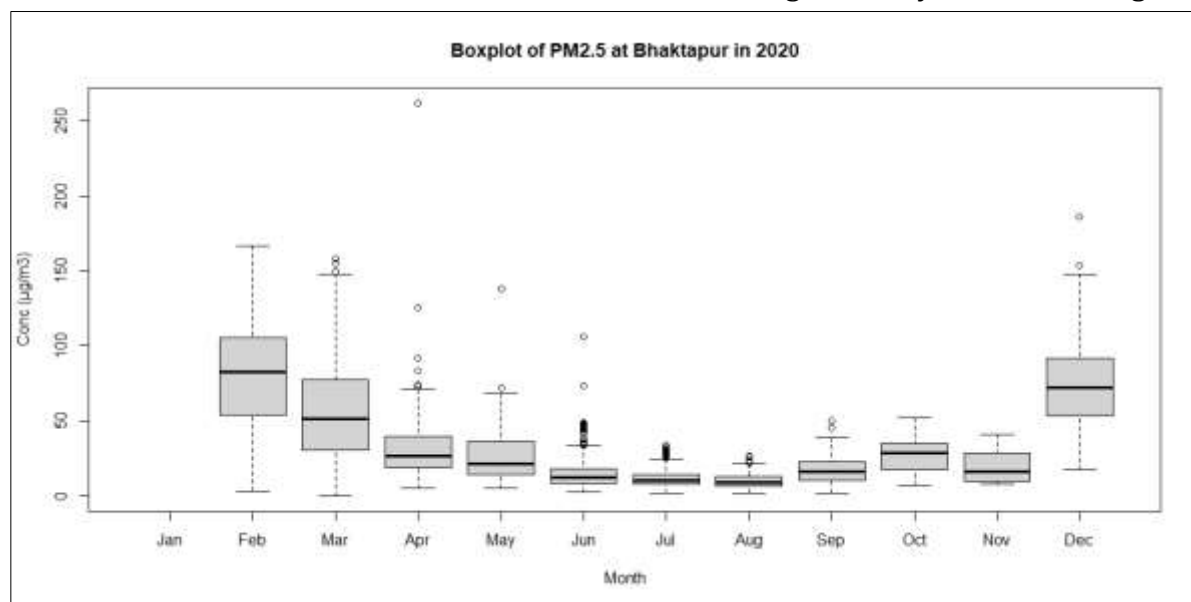


Figure 93: Monthly Variation of PM_{2.5}

Seasonal Variation of Average PM_{2.5} concentration

Ambient concentration of average PM_{2.5} during pre-monsoon (March-May), monsoon (June-September) and post-monsoon (October-November) can be shown in the figure below. The

highest concentration of PM_{2.5} was found during pre-monsoon (36.43 µg/m³) and the lowest concentration was found during monsoon (12.38 µg/m³).

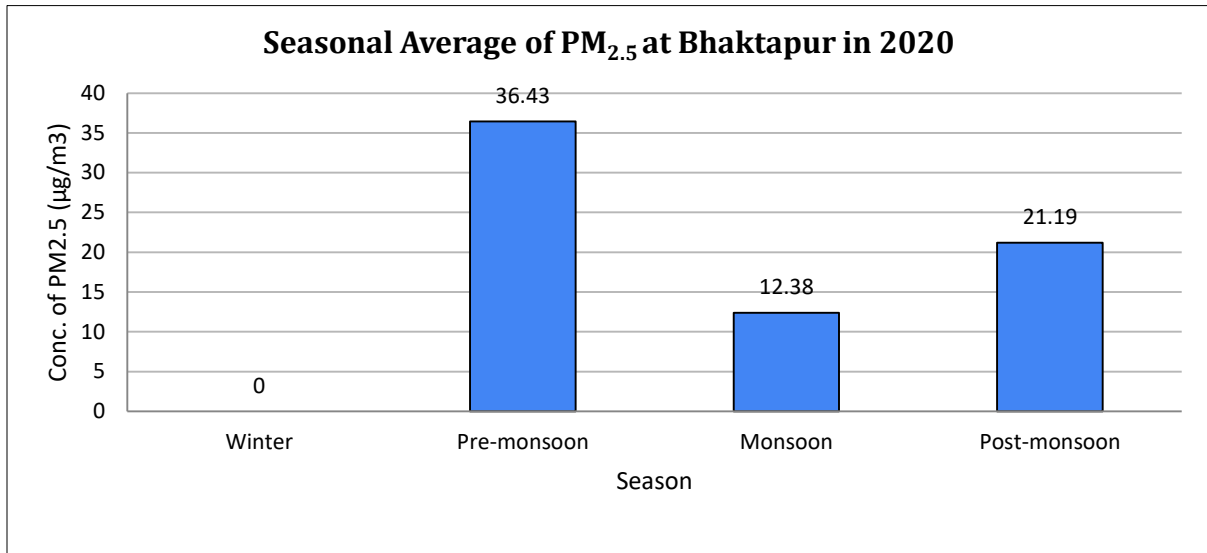


Figure 94: Seasonal variation of PM_{2.5}

Diurnal Variation of average PM_{2.5} concentration

The diurnal variation of average PM_{2.5} concentrations can be shown in the figure below Figure 13. The variation in PM_{2.5} concentrations was high at around 6 am and low at 1 pm.

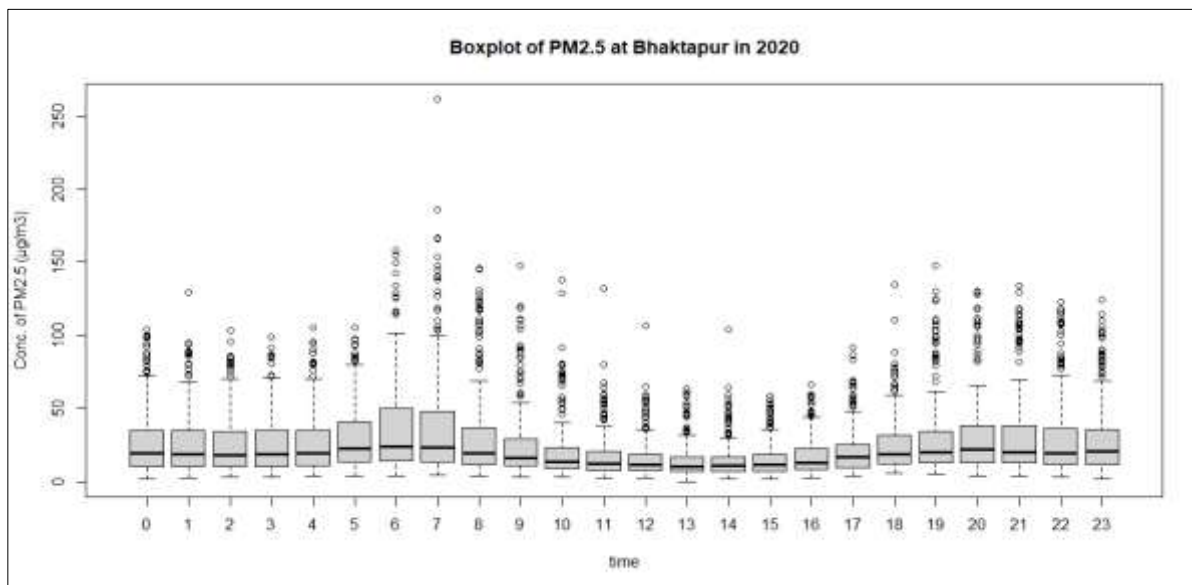


Figure 95: Diurnal variation of average PM_{2.5} concentration

Compliance Status of PM_{2.5}

The total days of PM_{2.5} monitored in the year 2020 counts 214 only, of which 37 days exceed the NAAQS guideline.

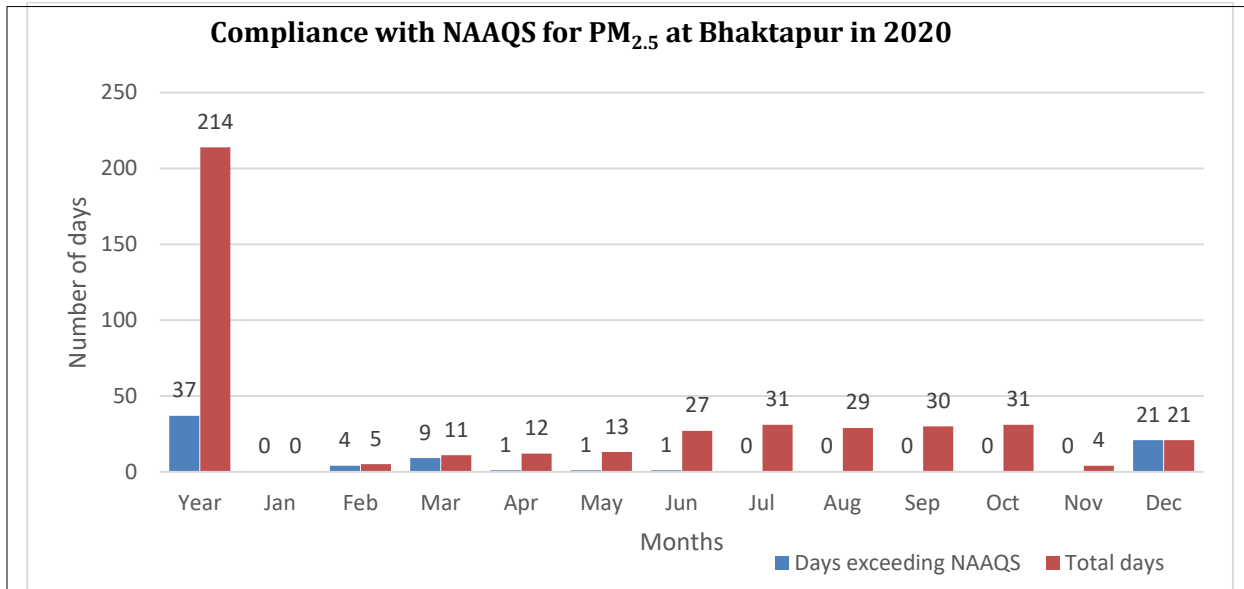


Figure 96: Compliance status of PM_{2.5}

2.4.4. Temporal variation of PM₁₀

Annual Average of PM₁₀

The annual average of PM₁₀ at Bhaktapur station was found to be 49.49 µg/m³ in 2020. Histogram of hourly average PM₁₀ is shown in the figure below.

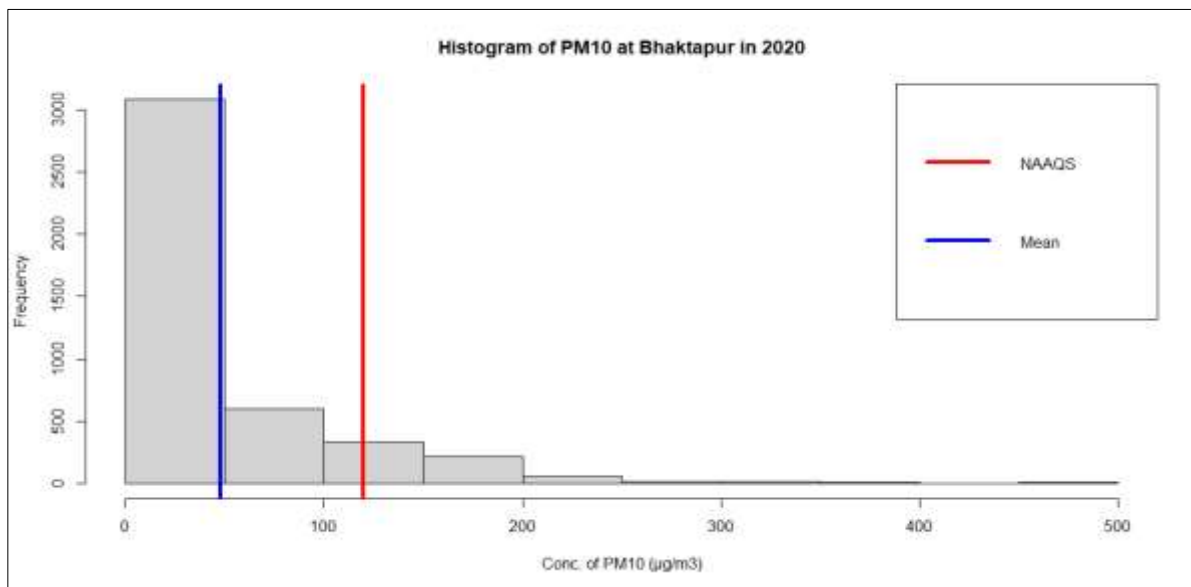


Figure 97: Histogram for the ambient concentration of PM₁₀

Daily Average of PM₁₀

Daily average concentration of PM₁₀ was high during December and was found low during July.

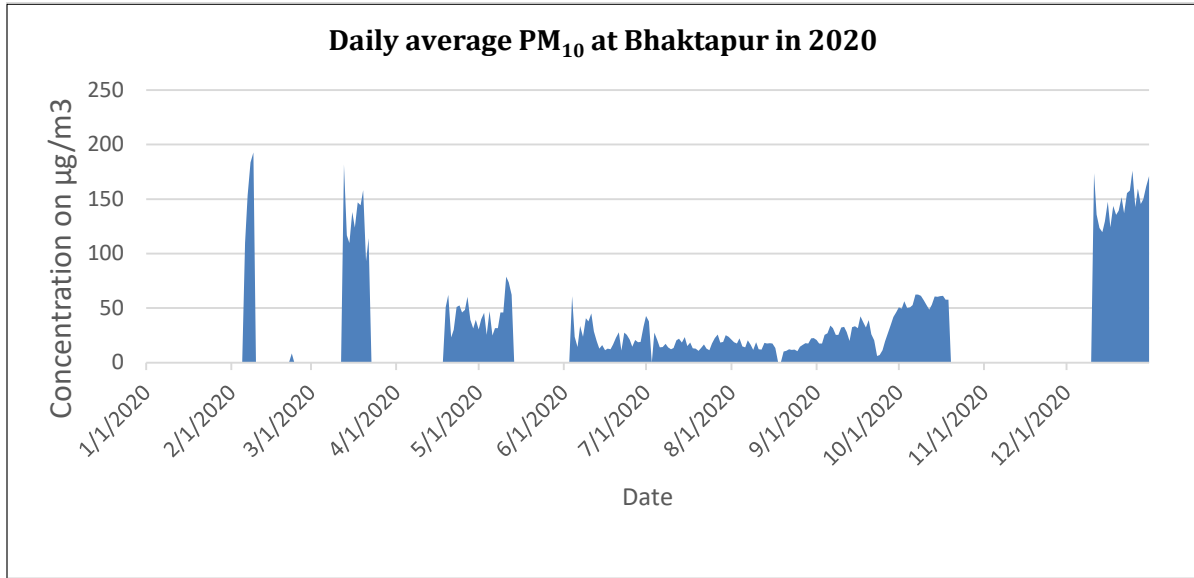


Figure 98: Daily average of PM₁₀

Monthly Average of PM₁₀

The highest and the lowest concentration of PM₁₀ was found during December (146.65 µg/m³) and August (15.9 µg/m³) respectively.

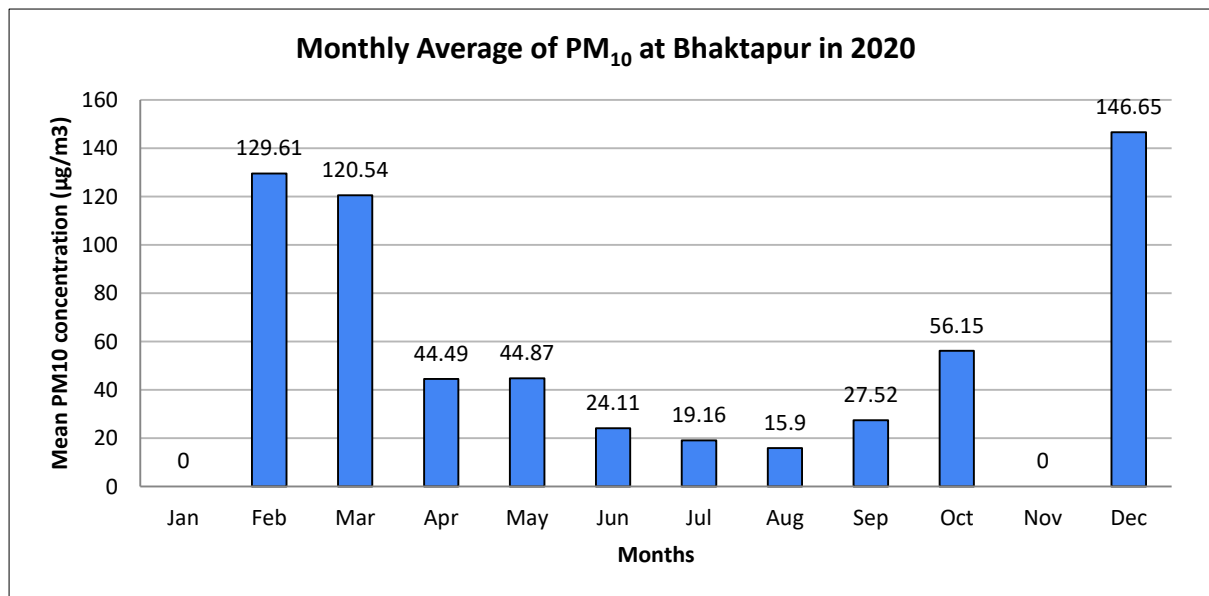


Figure 99: Monthly average of PM₁₀

Variation in concentration of PM₁₀ was found more during February and low during July and August.

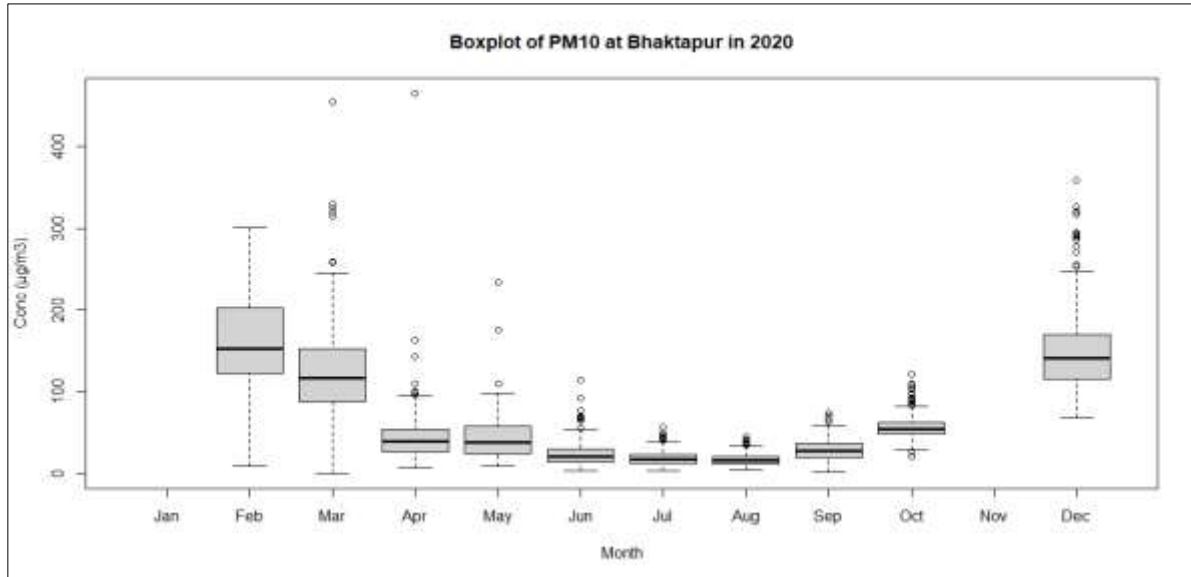


Figure 100: Monthly Variation of PM₁₀

Seasonal Variation of Average PM₁₀ concentration

Ambient concentration of average PM₁₀ during pre-monsoon (March-May) and monsoon (June-September) only can be shown in the figure below. The concentration of PM₁₀ was found more during post monsoon (69.97 µg/m³) than during monsoon (19.73 µg/m³).

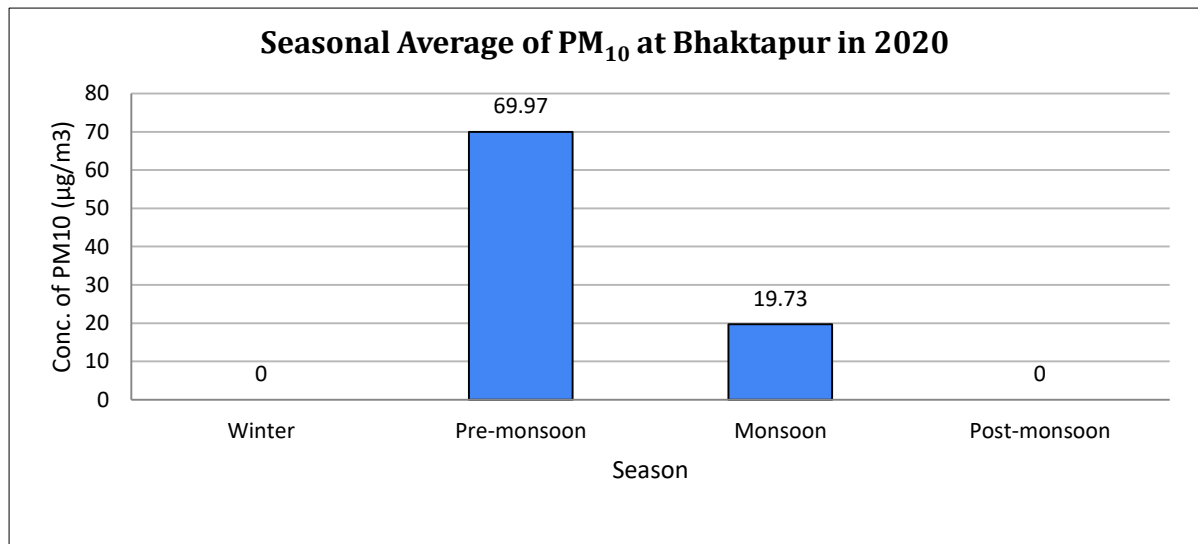


Figure 101: Seasonal variation of PM₁₀

Diurnal Variation of average PM₁₀ concentration

The diurnal variation of average PM₁₀ concentrations can be shown in the figure below. The variation in PM₁₀ concentration was high at around 6 and 8 am and low at 12 to 1 pm.

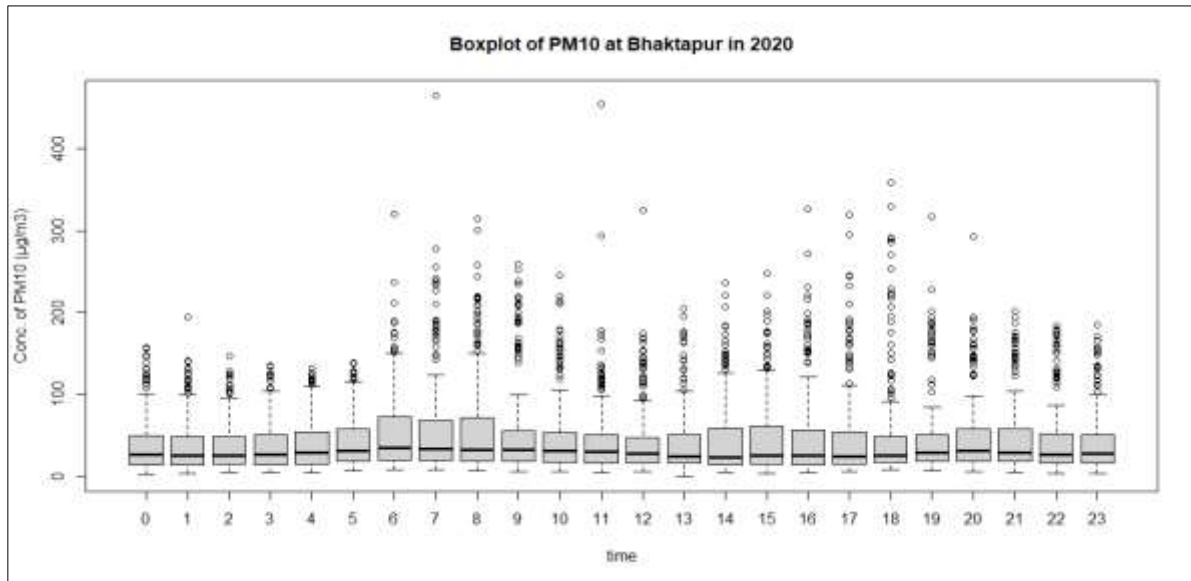


Figure 102: Diurnal variation of average PM₁₀ concentration

Compliance Status of PM₁₀

The total days of PM₁₀ monitored in the year 2020 counts 196 days only, of which 28 days exceed the NAAQS guideline.

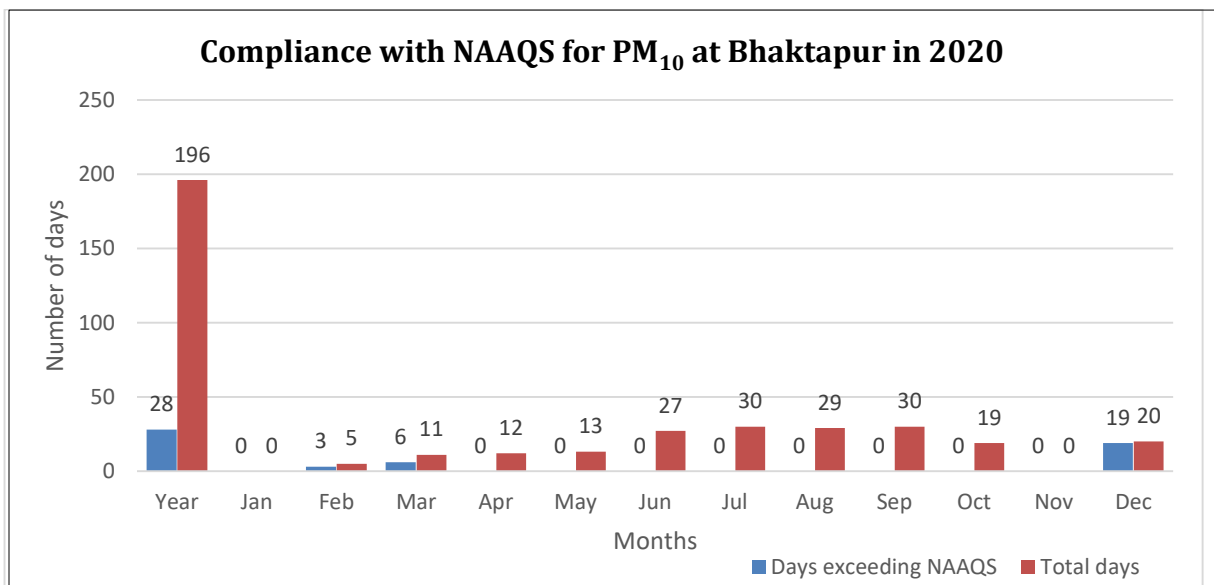


Figure 103: Compliance status of PM₁₀

2.4.5. Temporal variation of TSP

Annual Average of TSP

The annual average of TSP at Bhaktapur station was found to be 122.73 $\mu\text{g}/\text{m}^3$ in 2020. Histogram of hourly average TSP is shown in the figure below.

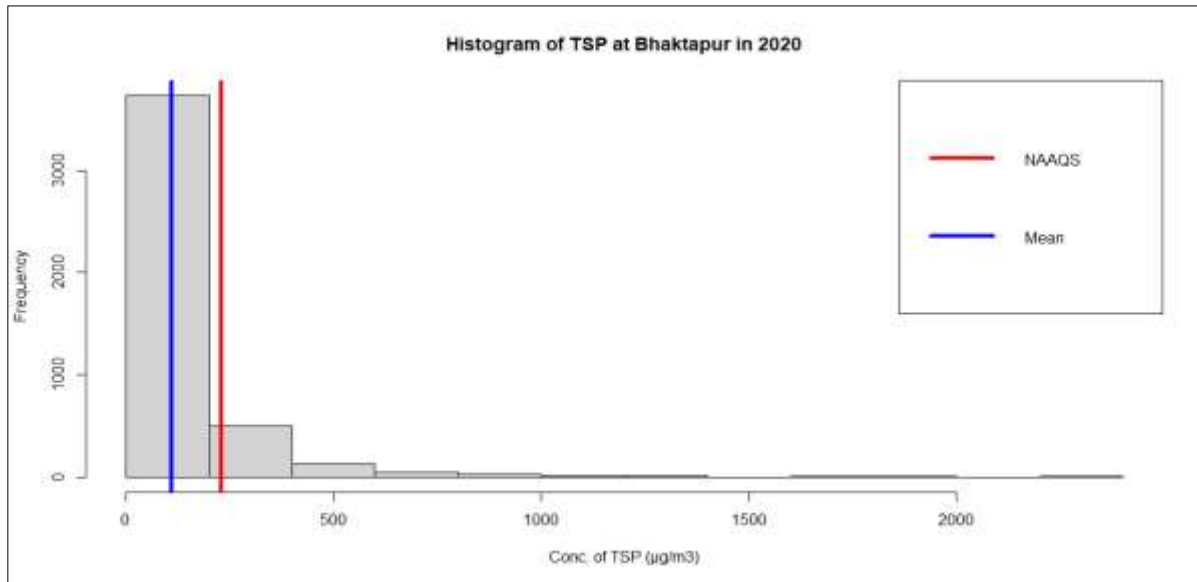


Figure 104: Histogram for the ambient concentration of TSP

Daily Average of TSP

Daily average concentration of TSP was found to be high during March and was found low during August.

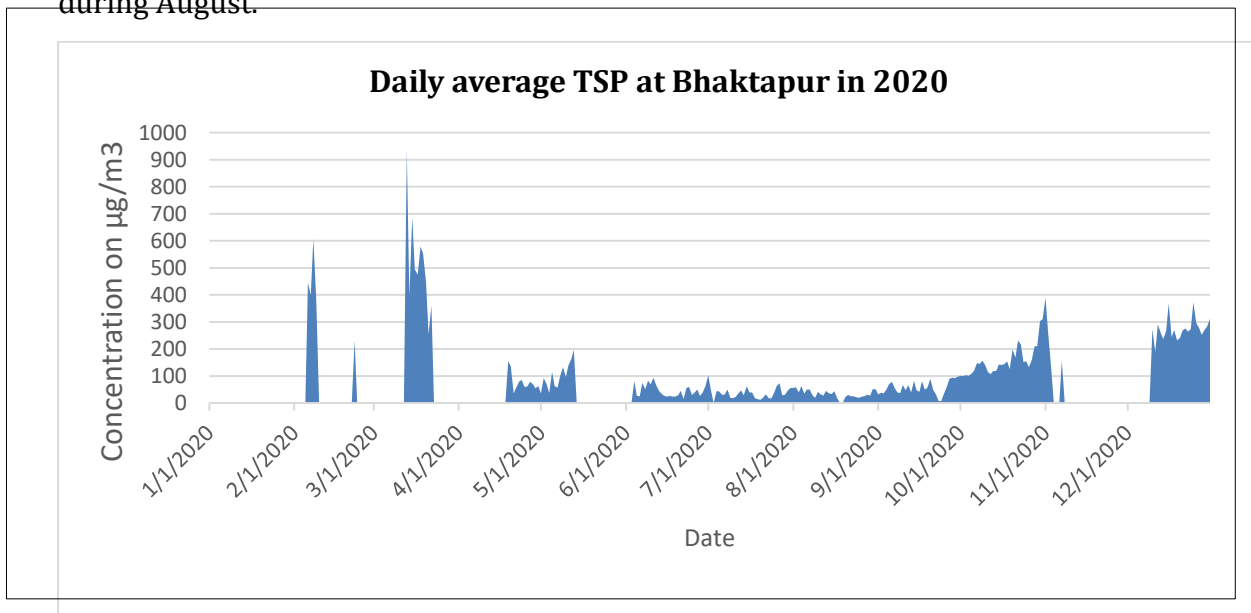


Figure 105: Daily average of TSP

Monthly Average of TSP

The highest and the lowest concentration of TSP was found in March ($470.75 \mu\text{g}/\text{m}^3$) and August ($35.14 \mu\text{g}/\text{m}^3$) respectively.

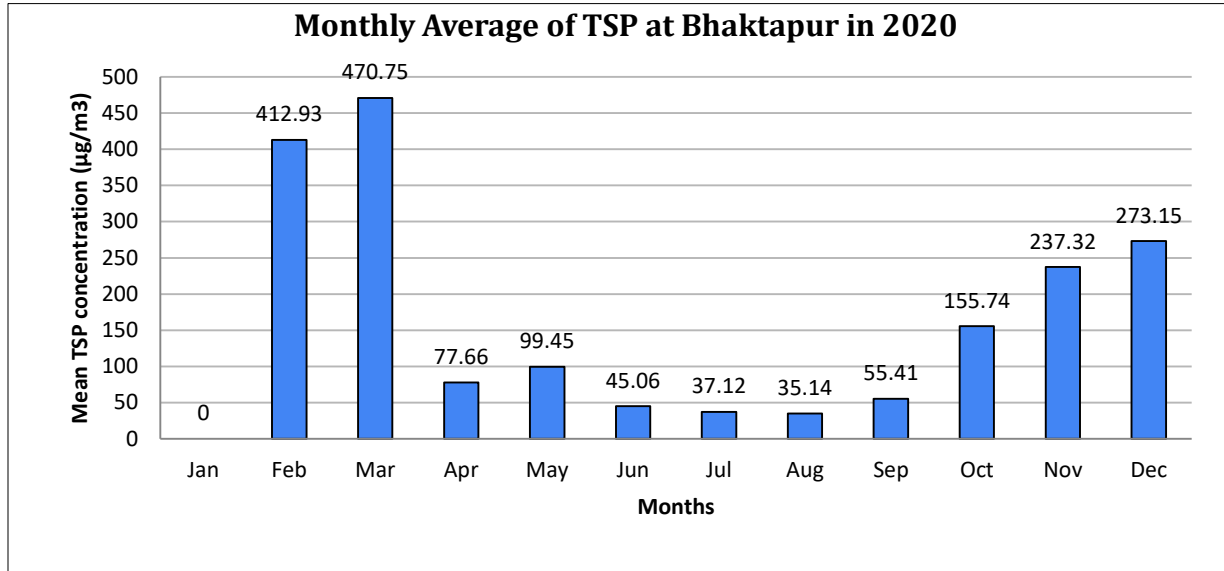


Figure 106: Monthly average of TSP

Variation in concentration of TSP was found to be high during March and low during June to August.

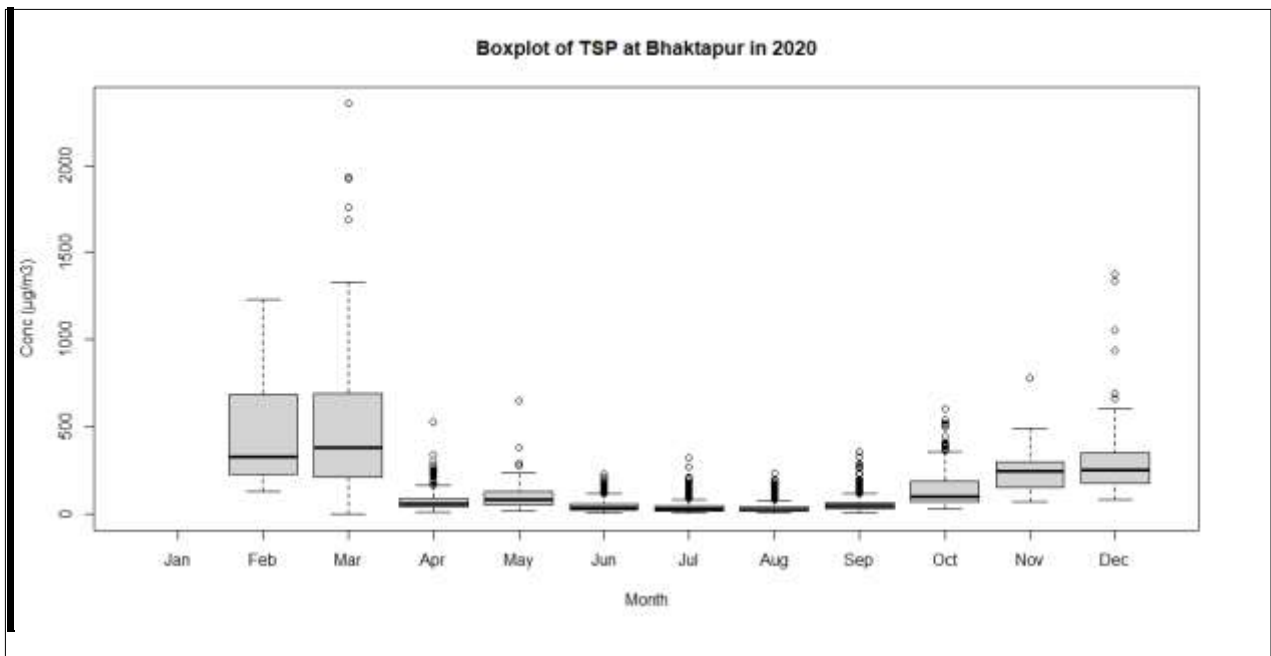


Figure 107: Monthly Variation of TSP

Seasonal Variation of Average TSP concentration

Ambient concentration of average TSP during pre-monsoon (March-May), monsoon (June-September) and post-monsoon (October-November) can be shown in the figure below. The highest concentration of TSP was found during pre-monsoon (215.96 µg/m³) and the lowest concentration was found during monsoon (39.11 µg/m³).

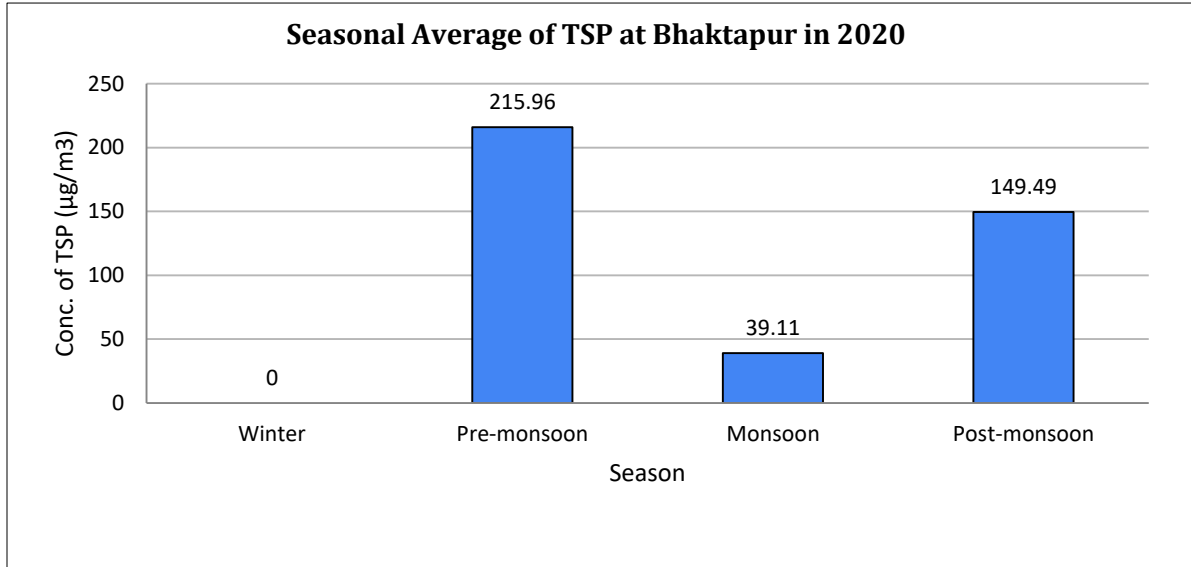


Figure 108: Seasonal variation of TSP

Diurnal Variation of average TSP concentration

The diurnal variation of average TSP concentrations can be shown in the figure below. The variation in TSP has remained almost constant throughout the time. However, the concentration was slightly high at 2 pm and low at 2 to 4 am.

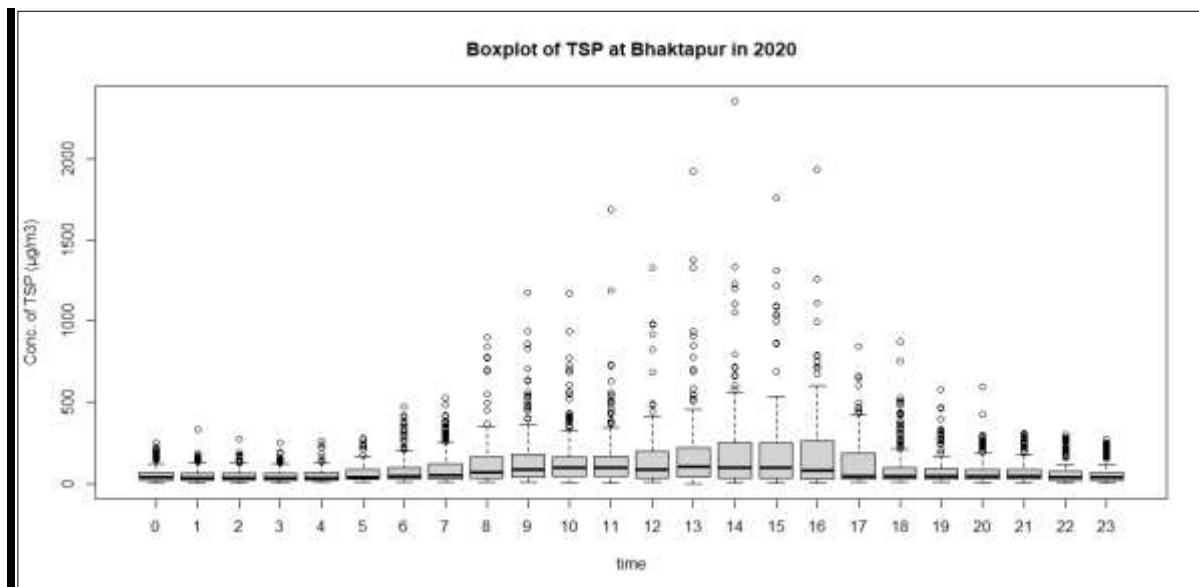


Figure 109: Diurnal variation of average TSP concentration

Compliance Status of TSP

The total days of TSP monitored in the year 2020 counts 213, of which 40 days exceed the NAAQS guideline.

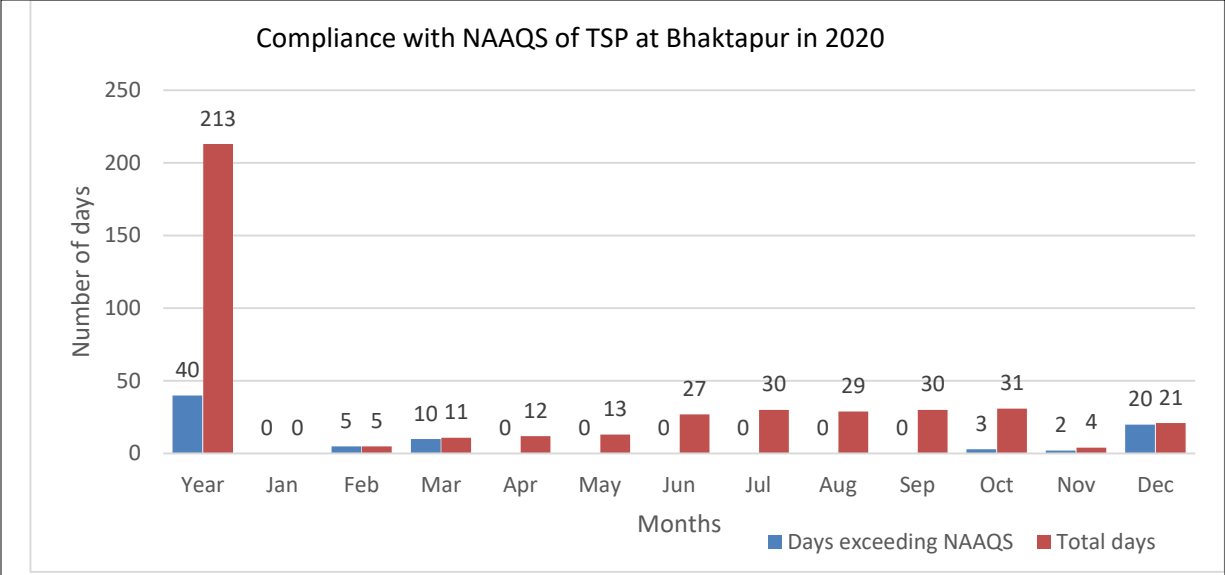


Figure 110: Compliance status of TSP

Annex

PM₁ daily average for Bhaktapur station

2017	PM1 daily	2018	PM1daily	2019	PM1 daily	2020	PM1 daily
1/1/2017		1/1/2018	66.87109	1/1/2019	26.48725	1/1/2020	
1/2/2017		1/2/2018		1/2/2019	24.08189	1/1/2020	
1/3/2017		1/3/2018		1/3/2019	24.17345	1/2/2020	
1/4/2017		1/4/2018		1/4/2019	26.3118	1/3/2020	
1/5/2017		1/5/2018	66.315	1/5/2019	30.78852	1/4/2020	
1/6/2017		1/6/2018	87.54575	1/6/2019	28.25992	1/5/2020	
1/7/2017		1/7/2018	65.10559	1/7/2019	30.65537	1/6/2020	
1/8/2017		1/8/2018	80.84974	1/8/2019	26.13415	1/7/2020	
1/9/2017		1/9/2018	103.4995	1/9/2019	24.12712	1/8/2020	
1/10/2017		1/10/2018	114.9817	1/10/2019	31.51087	1/9/2020	
1/11/2017		1/11/2018	98.5222	1/11/2019	36.3299	1/10/2020	
1/12/2017		1/12/2018	101.3428	1/12/2019	38.05015	1/11/2020	
1/13/2017		1/13/2018	94.51273	1/13/2019	32.86455	1/12/2020	
1/14/2017		1/14/2018	74.34541	1/14/2019	31.27292	1/13/2020	
1/15/2017		1/15/2018	88.72775	1/15/2019	28.73694	1/14/2020	
1/16/2017		1/16/2018	88.01285	1/16/2019	31.8054	1/15/2020	
1/17/2017		1/17/2018		1/17/2019	29.87533	1/16/2020	
1/18/2017		1/18/2018	66.4025	1/18/2019	26.78645	1/17/2020	
1/19/2017		1/19/2018	95.09576	1/19/2019	25.51306	1/18/2020	
1/20/2017		1/20/2018	91.78487	1/20/2019	26.62414	1/19/2020	
1/21/2017		1/21/2018	66.21955	1/21/2019	23.87762	1/20/2020	
1/22/2017		1/22/2018	91.44995	1/22/2019	24.1176	1/21/2020	
1/23/2017		1/23/2018	90.08657	1/23/2019	9.456597	1/22/2020	
1/24/2017		1/24/2018	73.15304	1/24/2019	18.14722	1/23/2020	
1/25/2017		1/25/2018	76.88348	1/25/2019	17.67443	1/24/2020	
1/26/2017		1/26/2018	75.80052	1/26/2019	11.62056	1/25/2020	
1/27/2017		1/27/2018	79.87881	1/27/2019	17.62566	1/26/2020	
1/28/2017		1/28/2018	83.59745	1/28/2019	20.03881	1/27/2020	
1/29/2017		1/29/2018	86.74871	1/29/2019	19.04531	1/28/2020	
1/30/2017		1/30/2018	89.44431	1/30/2019	17.15732	1/29/2020	
1/31/2017		1/31/2018	92.63539	1/31/2019	24.26491	1/30/2020	
2/1/2017		2/1/2018	91.16657	2/1/2019		1/31/2020	
2/2/2017		2/2/2018	95.69518	2/2/2019	11.80682	2/1/2020	
2/3/2017		2/3/2018	83.8894	2/3/2019		2/2/2020	
2/4/2017		2/4/2018	77.49152	2/4/2019		2/3/2020	
2/5/2017		2/5/2018	65.19278	2/5/2019	23.52862	2/4/2020	
2/6/2017		2/6/2018	66.39188	2/6/2019	25.24263	2/5/2020	

2/7/2017		2/7/2018	70.07642	2/7/2019	21.72377	2/6/2020	59.1326
2/8/2017		2/8/2018	55.00822	2/8/2019	8.678464	2/7/2020	70.85979
2/9/2017		2/9/2018	51.44888	2/9/2019	5.908488	2/8/2020	56.20917
2/10/2017		2/10/2018	48.54776	2/10/2019	11.54693	2/9/2020	136.3926
2/11/2017		2/11/2018	59.22289	2/11/2019	15.79277	2/10/2020	
2/12/2017		2/12/2018	87.33314	2/12/2019	18.19087	2/11/2020	
2/13/2017		2/13/2018	74.51286	2/13/2019	19.99895	2/12/2020	
2/14/2017		2/14/2018	80.10642	2/14/2019	25.18	2/13/2020	
2/15/2017		2/15/2018	54.02018	2/15/2019	23.34363	2/14/2020	
2/16/2017		2/16/2018	55.47229	2/16/2019	13.53215	2/15/2020	
2/17/2017		2/17/2018	56.18313	2/17/2019	12.61569	2/16/2020	
2/18/2017		2/18/2018	58.5975	2/18/2019	14.33763	2/17/2020	
2/19/2017		2/19/2018	61.97731	2/19/2019	16.30243	2/18/2020	
2/20/2017		2/20/2018	63.09639	2/20/2019	16.78582	2/19/2020	
2/21/2017		2/21/2018	66.72056	2/21/2019	18.32104	2/20/2020	
2/22/2017		2/22/2018	65.04547	2/22/2019	17.72042	2/21/2020	
2/23/2017		2/23/2018	59.51826	2/23/2019	14.81095	2/22/2020	
2/24/2017		2/24/2018	72.64792	2/24/2019	17.17204	2/23/2020	2.522222
2/25/2017		2/25/2018	57.13544	2/25/2019	11.00708	2/24/2020	
2/26/2017		2/26/2018	39.56722	2/26/2019	12.63611	2/25/2020	
2/27/2017		2/27/2018	59.72882	2/27/2019	9.387881	2/26/2020	
2/28/2017		2/28/2018	45.40931	2/28/2019	5.306818	2/27/2020	
3/1/2017		3/1/2018	45.27181	3/1/2019	12.55836	2/28/2020	
3/2/2017		3/2/2018	41.24646	3/2/2019	16.85683	2/29/2020	
3/3/2017		3/3/2018	26.00569	3/3/2019	18.42821	3/1/2020	
3/4/2017		3/4/2018	36.19227	3/4/2019	20.46231	3/2/2020	
3/5/2017		3/5/2018	27.19917	3/5/2019	20.20863	3/3/2020	
3/6/2017		3/6/2018	23.10903	3/6/2019	13.28745	3/4/2020	
3/7/2017		3/7/2018	32.00757	3/7/2019	16.60931	3/5/2020	
3/8/2017		3/8/2018	39.67778	3/8/2019	20.08039	3/6/2020	0.024321
3/9/2017		3/9/2018	36.18118	3/9/2019	19.88808	3/7/2020	
3/10/2017		3/10/2018		3/10/2019	19.40952	3/8/2020	
3/11/2017		3/11/2018		3/11/2019	15.86313	3/9/2020	
3/12/2017		3/12/2018		3/12/2019	15.54854	3/10/2020	
3/13/2017		3/13/2018	43.12064	3/13/2019	13.49795	3/11/2020	
3/14/2017		3/14/2018	45.68296	3/14/2019	15.36153	3/12/2020	
3/15/2017		3/15/2018	56.23088	3/15/2019	11.28752	3/13/2020	35.16605
3/16/2017		3/16/2018	21.8255	3/16/2019	11.1668	3/14/2020	41.80463
3/17/2017		3/17/2018	37.67703	3/17/2019	17.53403	3/15/2020	21.27534
3/18/2017		3/18/2018	55.33407	3/18/2019	19.17861	3/16/2020	34.71389
3/19/2017		3/19/2018	68.75715	3/19/2019	17.67354	3/17/2020	41.28749

3/20/2017		3/20/2018	73.42112	3/20/2019	16.12201	3/18/2020	48.05504
3/21/2017		3/21/2018	69.28347	3/21/2019	12.04583	3/19/2020	44.34754
3/22/2017		3/22/2018	56.78516	3/22/2019	12.22424	3/20/2020	50.66646
3/23/2017		3/23/2018	50.37414	3/23/2019	21.03403	3/21/2020	36.45768
3/24/2017		3/24/2018	49.88226	3/24/2019	32.44701	3/22/2020	40.52659
3/25/2017		3/25/2018	64.85228	3/25/2019	34.28125	3/23/2020	
3/26/2017		3/26/2018	73.33799	3/26/2019	9.180139	3/24/2020	
3/27/2017		3/27/2018	65.26506	3/27/2019	9.354653	3/25/2020	
3/28/2017		3/28/2018	69.17865	3/28/2019	13.48764	3/26/2020	
3/29/2017		3/29/2018	29.15485	3/29/2019	22.23611	3/27/2020	
3/30/2017		3/30/2018	21.03341	3/30/2019	29.54097	3/28/2020	
3/31/2017		3/31/2018	20.76764	3/31/2019	16.79069	3/29/2020	
4/1/2017		4/1/2018	32.27428	4/1/2019	8.9303	3/30/2020	
4/2/2017		4/2/2018	35.01386	4/2/2019	10.10937	3/31/2020	
4/3/2017		4/3/2018	31.11981	4/3/2019	14.71306	4/1/2020	
4/4/2017		4/4/2018	30.52133	4/4/2019	20.50028	4/2/2020	
4/5/2017		4/5/2018	22.12588	4/5/2019	25.03326	4/3/2020	
4/6/2017		4/6/2018	26.02559	4/6/2019	16.85743	4/4/2020	
4/7/2017		4/7/2018	28.34701	4/7/2019	7.403125	4/5/2020	
4/8/2017		4/8/2018	30.99243	4/8/2019	10.81087	4/6/2020	
4/9/2017		4/9/2018	30.97708	4/9/2019	11.76417	4/7/2020	
4/10/2017		4/10/2018	28.67849	4/10/2019	10.73875	4/8/2020	
4/11/2017		4/11/2018	30.66035	4/11/2019	11.19104	4/9/2020	
4/12/2017		4/12/2018	22.78977	4/12/2019	14.02099	4/10/2020	
4/13/2017		4/13/2018	19.03771	4/13/2019	16.8259	4/11/2020	
4/14/2017		4/14/2018	20.14117	4/14/2019	13.84606	4/12/2020	
4/15/2017		4/15/2018	29.65518	4/15/2019	11.21792	4/13/2020	
4/16/2017		4/16/2018	35.86623	4/16/2019	10.93155	4/14/2020	
4/17/2017		4/17/2018	29.68234	4/17/2019	6.587495	4/15/2020	
4/18/2017		4/18/2018	25.83645	4/18/2019	10.32963	4/16/2020	
4/19/2017		4/19/2018	25.30174	4/19/2019	9.331834	4/17/2020	
4/20/2017		4/20/2018	25.49056	4/20/2019	11.95174	4/18/2020	
4/21/2017		4/21/2018	21.42869	4/21/2019	18.68396	4/19/2020	
4/22/2017		4/22/2018	21.71984	4/22/2019	24.4325	4/20/2020	
4/23/2017		4/23/2018	34.6089	4/23/2019	20.6222	4/21/2020	
4/24/2017		4/24/2018	40.04551	4/24/2019	19.42775	4/22/2020	
4/25/2017		4/25/2018	40.22373	4/25/2019	17.80422	4/23/2020	
4/26/2017		4/26/2018	38.75069	4/26/2019	20.56306	4/24/2020	
4/27/2017		4/27/2018	29.14137	4/27/2019	19.51576	4/25/2020	
4/28/2017		4/28/2018	29.94304	4/28/2019	17.43722	4/26/2020	
4/29/2017		4/29/2018	24.38931	4/29/2019	17.76653	4/27/2020	

4/30/2017		4/30/2018	20.73235	4/30/2019	16.36576	4/28/2020	
5/1/2017		5/1/2018	21.43247	5/1/2019	13.30895	4/29/2020	
5/2/2017		5/2/2018	27.66951	5/2/2019	10.23285	4/30/2020	
5/3/2017		5/3/2018	17.94701	5/3/2019	13.43847	5/1/2020	
5/4/2017		5/4/2018	19.71007	5/4/2019	9.698354	5/2/2020	
5/5/2017		5/5/2018	18.57569	5/5/2019	11.23563	5/3/2020	
5/6/2017		5/6/2018	27.47035	5/6/2019	14.3259	5/4/2020	
5/7/2017		5/7/2018	29.91271	5/7/2019	18.8667	5/5/2020	
5/8/2017		5/8/2018	22.94111	5/8/2019	21.83652	5/6/2020	
5/9/2017		5/9/2018	10.91273	5/9/2019	22.89715	5/7/2020	
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11/21/2017	50.18465	11/21/2018	40.02264	11/21/2019	62.32285	11/19/2020	
11/22/2017	53.54512	11/22/2018	34.44987	11/22/2019	60.68937	11/20/2020	
11/23/2017	40.2593	11/23/2018	21.86991	11/23/2019	57.72243	11/21/2020	
11/24/2017	51.64835	11/24/2018	21.98583	11/24/2019	60.36563	11/22/2020	
11/25/2017	52.66266	11/25/2018	21.36166	11/25/2019	57.22815	11/23/2020	
11/26/2017	57.12735	11/26/2018	16.81574	11/26/2019	59.33313	11/24/2020	
11/27/2017	53.16422	11/27/2018	19.14783	11/27/2019	61.60396	11/25/2020	
11/28/2017	59.37568	11/28/2018	24.3606	11/28/2019	51.46098	11/26/2020	
11/29/2017	79.05403	11/29/2018	23.3866	11/29/2019	57.91977	11/27/2020	
11/30/2017	82.90237	11/30/2018	18.88485	11/30/2019	37.2625	11/28/2020	
12/1/2017	77.00836	12/1/2018	19.75722	12/1/2019	40.17902	11/29/2020	
12/2/2017	61.34359	12/2/2018	22.16965	12/2/2019	46.90435	11/30/2020	
12/3/2017	52.51451	12/3/2018	24.93821	12/3/2019	41.2631	12/1/2020	
12/4/2017	46.29171	12/4/2018	28.09936	12/4/2019	54.69654	12/2/2020	
12/5/2017	42.68222	12/5/2018	27.67689	12/5/2019	67.1961	12/3/2020	
12/6/2017	45.61489	12/6/2018	23.99739	12/6/2019	53.34302	12/4/2020	
12/7/2017	47.09237	12/7/2018	22.10072	12/7/2019	51.58853	12/5/2020	
12/8/2017	45.30593	12/8/2018	22.82507	12/8/2019	41.07404	12/6/2020	
12/9/2017	47.33542	12/9/2018	21.29852	12/9/2019	43.33917	12/7/2020	
12/10/2017	53.73947	12/10/2018	17.4002	12/10/2019	51.45401	12/8/2020	
12/11/2017	46.28736	12/11/2018	15.18476	12/11/2019	40.05011	12/9/2020	
12/12/2017	45.97854	12/12/2018	14.25047	12/12/2019	62.95834	12/10/2020	68.65263
12/13/2017	54.31472	12/13/2018	17.53195	12/13/2019	50.30401	12/11/2020	63.13958
12/14/2017	55.56939	12/14/2018	20.5771	12/14/2019	19.10342	12/12/2020	48.18486
12/15/2017	68.71596	12/15/2018	16.91721	12/15/2019	41.43544	12/13/2020	45.65042
12/16/2017	72.41551	12/16/2018	16.66866	12/16/2019	54.36428	12/14/2020	45.6627
12/17/2017	80.38392	12/17/2018	25.03285	12/17/2019		12/15/2020	46.95882
12/18/2017	76.80652	12/18/2018	23.24083	12/18/2019		12/16/2020	48.83278
12/19/2017	68.06309	12/19/2018	36.05376	12/19/2019		12/17/2020	51.06576
12/20/2017	75.75903	12/20/2018	40.09869	12/20/2019		12/18/2020	58.89569
12/21/2017	72.04759	12/21/2018	38.48043	12/21/2019		12/19/2020	64.62792
12/22/2017	65.56601	12/22/2018	31.83407	12/22/2019		12/20/2020	65.28656
12/23/2017	65.81837	12/23/2018	30.02177	12/23/2019		12/21/2020	63.75993
12/24/2017	65.75549	12/24/2018	29.73939	12/24/2019		12/22/2020	53.65072
12/25/2017	66.49334	12/25/2018	26.05089	12/25/2019		12/23/2020	61.17097
12/26/2017	68.22086	12/26/2018	23.10528	12/26/2019		12/24/2020	63.21015
12/27/2017	70.44703	12/27/2018	25.31515	12/27/2019		12/25/2020	54.79299
12/28/2017	62.42109	12/28/2018	25.41115	12/28/2019		12/26/2020	55.98049
12/29/2017	63.74287	12/29/2018	25.77007	12/29/2019		12/27/2020	67.62975
12/30/2017	68.18508	12/30/2018	26.54872	12/30/2019	54.82457	12/28/2020	65.37652
12/31/2017	69.92581	12/31/2018	26.80462	12/31/2019	70.2107	12/29/2020	65.52867

12/31/2017	0	12/31/2018	0	12/31/2019		12/30/2020	68.3091
						12/31/2020	

PM_{2.5} daily average for Bhaktapur station

2017	PM2.5 daily	2018	PM2.5 daily	2019	PM2.5 daily	2020	PM2.5 daily
1/1/2017		1/1/2018	89.35253	1/1/2019	30.99338	1/1/2020	
1/2/2017		1/2/2018		1/2/2019	29.03602	1/2/2020	
1/3/2017		1/3/2018		1/3/2019	29.35299	1/3/2020	
1/4/2017		1/4/2018		1/4/2019	30.08249	1/4/2020	
1/5/2017		1/5/2018	97.85143	1/5/2019	36.51895	1/5/2020	
1/6/2017		1/6/2018	117.1011	1/6/2019	33.16684	1/6/2020	
1/7/2017		1/7/2018	89.69186	1/7/2019	36.33154	1/7/2020	
1/8/2017		1/8/2018	105.854	1/8/2019	29.5767	1/8/2020	
1/9/2017		1/9/2018	138.6469	1/9/2019	27.44408	1/9/2020	
1/10/2017		1/10/2018	151.1815	1/10/2019	35.28035	1/10/2020	
1/11/2017		1/11/2018	128.3047	1/11/2019	39.89421	1/11/2020	
1/12/2017		1/12/2018	132.5102	1/12/2019	41.20394	1/12/2020	
1/13/2017		1/13/2018	117.9129	1/13/2019	37.16663	1/13/2020	
1/14/2017		1/14/2018	92.1603	1/14/2019	36.10016	1/14/2020	
1/15/2017		1/15/2018	112.704	1/15/2019	32.29036	1/15/2020	
1/16/2017		1/16/2018	116.9493	1/16/2019	35.28861	1/16/2020	
1/17/2017		1/17/2018		1/17/2019	33.93864	1/17/2020	
1/18/2017		1/18/2018	86.15887	1/18/2019	30.2288	1/18/2020	
1/19/2017		1/19/2018	124.5022	1/19/2019	28.5247	1/19/2020	
1/20/2017		1/20/2018	122.1615	1/20/2019	29.62357	1/20/2020	
1/21/2017		1/21/2018	82.53887	1/21/2019	27.28952	1/21/2020	
1/22/2017		1/22/2018	121.0595	1/22/2019	27.70295	1/22/2020	
1/23/2017		1/23/2018	118.8785	1/23/2019	10.84229	1/23/2020	
1/24/2017		1/24/2018	83.62795	1/24/2019	21.81718	1/24/2020	
1/25/2017		1/25/2018	103.4867	1/25/2019	20.52761	1/25/2020	
1/26/2017		1/26/2018	94.90193	1/26/2019	13.25703	1/26/2020	
1/27/2017		1/27/2018	94.39474	1/27/2019	20.30861	1/27/2020	
1/28/2017		1/28/2018	97.28515	1/28/2019	22.59795	1/28/2020	
1/29/2017		1/29/2018	104.3424	1/29/2019	22.04306	1/29/2020	
1/30/2017		1/30/2018	104.3658	1/30/2019	19.17758	1/30/2020	
1/31/2017		1/31/2018	106.5202	1/31/2019	24.77368	1/31/2020	
2/1/2017		2/1/2018	103.5195	2/1/2019		2/1/2020	
2/2/2017		2/2/2018	118.8344	2/2/2019	13.47273	2/2/2020	
2/3/2017		2/3/2018	97.20638	2/3/2019		2/3/2020	
2/4/2017		2/4/2018	101.802	2/4/2019		2/4/2020	
2/5/2017		2/5/2018	81.97179	2/5/2019	28.6144	2/5/2020	

2/6/2017		2/6/2018	85.88417	2/6/2019	30.04024	2/6/2020	73.26887
2/7/2017		2/7/2018	90.60604	2/7/2019	23.49154	2/7/2020	89.43165
2/8/2017		2/8/2018	78.01696	2/8/2019	9.728724	2/8/2020	74.19239
2/9/2017		2/9/2018	75.14929	2/9/2019	7.306072	2/9/2020	154.2981
2/10/2017		2/10/2018	67.99284	2/10/2019	14.65215	2/10/2020	
2/11/2017		2/11/2018	78.42063	2/11/2019	19.17022	2/11/2020	
2/12/2017		2/12/2018	110.4762	2/12/2019	22.16255	2/12/2020	
2/13/2017		2/13/2018	90.39592	2/13/2019	24.32923	2/13/2020	
2/14/2017		2/14/2018	90.38401	2/14/2019	29.56587	2/14/2020	
2/15/2017		2/15/2018	65.94928	2/15/2019	26.99975	2/15/2020	
2/16/2017		2/16/2018	63.18281	2/16/2019	16.14555	2/16/2020	
2/17/2017		2/17/2018	64.01778	2/17/2019	15.77171	2/17/2020	
2/18/2017		2/18/2018	68.00855	2/18/2019	16.79241	2/18/2020	
2/19/2017		2/19/2018	71.56582	2/19/2019	19.12147	2/19/2020	
2/20/2017		2/20/2018	73.4783	2/20/2019	20.82314	2/20/2020	
2/21/2017		2/21/2018	77.54324	2/21/2019	22.78927	2/21/2020	
2/22/2017		2/22/2018	78.81951	2/22/2019	23.16576	2/22/2020	
2/23/2017		2/23/2018	69.04162	2/23/2019	19.4903	2/23/2020	2.944444
2/24/2017		2/24/2018	83.82856	2/24/2019	22.30994	2/24/2020	
2/25/2017		2/25/2018	73.27412	2/25/2019	14.79715	2/25/2020	
2/26/2017		2/26/2018	55.30226	2/26/2019	17.27875	2/26/2020	
2/27/2017		2/27/2018	69.95535	2/27/2019	12.51166	2/27/2020	
2/28/2017		2/28/2018	54.36132	2/28/2019	6.947157	2/28/2020	
3/1/2017		3/1/2018	53.44847	3/1/2019	14.88283	2/29/2020	
3/2/2017		3/2/2018	49.51049	3/2/2019	20.2853	3/1/2020	
3/3/2017		3/3/2018	32.59111	3/3/2019	21.80745	3/2/2020	
3/4/2017		3/4/2018	45.90852	3/4/2019	25.77974	3/3/2020	
3/5/2017		3/5/2018	42.41951	3/5/2019	23.26806	3/4/2020	
3/6/2017		3/6/2018	38.47056	3/6/2019	17.3627	3/5/2020	
3/7/2017		3/7/2018	46.62417	3/7/2019	19.67952	3/6/2020	0.024321
3/8/2017		3/8/2018	49.06979	3/8/2019	23.89307	3/7/2020	
3/9/2017		3/9/2018	38.66953	3/9/2019	23.60238	3/8/2020	
3/10/2017		3/10/2018		3/10/2019	23.27958	3/9/2020	
3/11/2017		3/11/2018		3/11/2019	20.66405	3/10/2020	
3/12/2017		3/12/2018		3/12/2019	21.9325	3/11/2020	
3/13/2017		3/13/2018	76.27977	3/13/2019	19.33281	3/12/2020	
3/14/2017		3/14/2018	64.69991	3/14/2019	21.07674	3/13/2020	53.37527
3/15/2017		3/15/2018	67.84468	3/15/2019	16.67709	3/14/2020	59.12861
3/16/2017		3/16/2018	30.48669	3/16/2019	15.8676	3/15/2020	31.7803
3/17/2017		3/17/2018	50.27578	3/17/2019	24.02514	3/16/2020	56.54325
3/18/2017		3/18/2018	69.50367	3/18/2019	24.62828	3/17/2020	56.21326

3/19/2017		3/19/2018	84.00149	3/19/2019	20.86389	3/18/2020	67.04919
3/20/2017		3/20/2018	87.03245	3/20/2019	18.46542	3/19/2020	62.63047
3/21/2017		3/21/2018	83.56051	3/21/2019	15.38993	3/20/2020	71.47417
3/22/2017		3/22/2018	71.52521	3/22/2019	16.24201	3/21/2020	51.80768
3/23/2017		3/23/2018	65.27723	3/23/2019	26.73194	3/22/2020	57.35069
3/24/2017		3/24/2018	63.83171	3/24/2019	37.94576	3/23/2020	
3/25/2017		3/25/2018	78.64836	3/25/2019	39.33444	3/24/2020	
3/26/2017		3/26/2018	86.3993	3/26/2019	10.51056	3/25/2020	
3/27/2017		3/27/2018	75.98833	3/27/2019	11.80486	3/26/2020	
3/28/2017		3/28/2018	78.72454	3/28/2019	16.85167	3/27/2020	
3/29/2017		3/29/2018	39.20994	3/29/2019	26.56285	3/28/2020	
3/30/2017		3/30/2018	31.0222	3/30/2019	32.89646	3/29/2020	
3/31/2017		3/31/2018	29.29419	3/31/2019	18.94986	3/30/2020	
4/1/2017		4/1/2018	41.51524	4/1/2019	11.82446	3/31/2020	
4/2/2017		4/2/2018	42.96181	4/2/2019	13.46764	4/1/2020	
4/3/2017		4/3/2018	37.94463	4/3/2019	17.68847	4/2/2020	
4/4/2017		4/4/2018	34.2601	4/4/2019	22.87486	4/3/2020	
4/5/2017		4/5/2018	26.55704	4/5/2019	28.04809	4/4/2020	
4/6/2017		4/6/2018	30.54465	4/6/2019	18.81243	4/5/2020	
4/7/2017		4/7/2018	32.58016	4/7/2019	9.408351	4/6/2020	
4/8/2017		4/8/2018	36.70278	4/8/2019	12.98121	4/7/2020	
4/9/2017		4/9/2018	36.26889	4/9/2019	14.3516	4/8/2020	
4/10/2017		4/10/2018	35.74316	4/10/2019	13.4941	4/9/2020	
4/11/2017		4/11/2018	49.07826	4/11/2019	14.33227	4/10/2020	
4/12/2017		4/12/2018	28.47082	4/12/2019	17.81227	4/11/2020	
4/13/2017		4/13/2018	25.69882	4/13/2019	19.49833	4/12/2020	
4/14/2017		4/14/2018	26.33598	4/14/2019	15.39326	4/13/2020	
4/15/2017		4/15/2018	36.98847	4/15/2019	13.16882	4/14/2020	
4/16/2017		4/16/2018	41.94957	4/16/2019	12.47962	4/15/2020	
4/17/2017		4/17/2018	33.55844	4/17/2019	8.379652	4/16/2020	
4/18/2017		4/18/2018	30.98355	4/18/2019	13.11002	4/17/2020	
4/19/2017		4/19/2018	31.45079	4/19/2019	12.26263	4/18/2020	
4/20/2017		4/20/2018	32.78708	4/20/2019	15.45917	4/19/2020	26.9535
4/21/2017		4/21/2018	31.3574	4/21/2019	22.95063	4/20/2020	35.61855
4/22/2017		4/22/2018	31.92805	4/22/2019	27.4484	4/21/2020	17.16192
4/23/2017		4/23/2018	47.77287	4/23/2019	23.17946	4/22/2020	21.44812
4/24/2017		4/24/2018	51.4467	4/24/2019	22.74848	4/23/2020	36.25797
4/25/2017		4/25/2018	48.8649	4/25/2019	20.82955	4/24/2020	38.41245
4/26/2017		4/26/2018	44.15262	4/26/2019	23.62778	4/25/2020	36.62227
4/27/2017		4/27/2018	34.19008	4/27/2019	22.88736	4/26/2020	38.59193
4/28/2017		4/28/2018	32.84219	4/28/2019	20.5775	4/27/2020	42.75257

4/29/2017		4/29/2018	27.37	4/29/2019	21.46056	4/28/2020	26.81917
4/30/2017		4/30/2018	23.38392	4/30/2019	20.77	4/29/2020	22.06462
5/1/2017		5/1/2018	25.47105	5/1/2019	18.11056	4/30/2020	27.85071
5/2/2017		5/2/2018	31.67167	5/2/2019	14.78208	5/1/2020	23.5538
5/3/2017		5/3/2018	21.63958	5/3/2019	16.59021	5/2/2020	27.2777
5/4/2017		5/4/2018	24.52898	5/4/2019	11.78241	5/3/2020	32.18513
5/5/2017		5/5/2018	22.67944	5/5/2019	14.74763	5/4/2020	16.91462
5/6/2017		5/6/2018	32.6159	5/6/2019	18.56937	5/5/2020	29.04377
5/7/2017		5/7/2018	37.83372	5/7/2019	24.42044	5/6/2020	14.85682
5/8/2017		5/8/2018	37.26014	5/8/2019	26.57557	5/7/2020	21.00132
5/9/2017		5/9/2018	17.81478	5/9/2019	28.07799	5/8/2020	18.13131
5/10/2017		5/10/2018	25.96417	5/10/2019	24.48875	5/9/2020	23.95218
5/11/2017		5/11/2018	23.84743	5/11/2019	22.34542	5/10/2020	28.14791
5/12/2017		5/12/2018	24.01536	5/12/2019	13.72785	5/11/2020	44.687
5/13/2017		5/13/2018	24.06437	5/13/2019	15.48944	5/12/2020	38.91754
5/14/2017		5/14/2018	14.25215	5/14/2019	16.10389	5/13/2020	30.06468
5/15/2017		5/15/2018	20.31137	5/15/2019	15.01153	5/14/2020	
5/16/2017		5/16/2018	26.43154	5/16/2019	11.84698	5/15/2020	
5/17/2017		5/17/2018	19.79355	5/17/2019	13.83997	5/16/2020	
5/18/2017		5/18/2018	29.15367	5/18/2019	13.94917	5/17/2020	
5/19/2017		5/19/2018	31.32639	5/19/2019	12.47861	5/18/2020	
5/20/2017		5/20/2018	25.33907	5/20/2019	15.53316	5/19/2020	
5/21/2017		5/21/2018	28.21806	5/21/2019	17.69078	5/20/2020	
5/22/2017		5/22/2018	26.1259	5/22/2019	16.6916	5/21/2020	
5/23/2017		5/23/2018	22.81414	5/23/2019	13.05049	5/22/2020	
5/24/2017		5/24/2018	17.835	5/24/2019	16.23541	5/23/2020	
5/25/2017		5/25/2018	23.92215	5/25/2019	10.57264	5/24/2020	
5/26/2017		5/26/2018	31.34089	5/26/2019	11.37194	5/25/2020	
5/27/2017		5/27/2018	31.50778	5/27/2019	14.16629	5/26/2020	
5/28/2017		5/28/2018	17.03597	5/28/2019	14.12159	5/27/2020	
5/29/2017		5/29/2018	17.39665	5/29/2019	15.9284	5/28/2020	
5/30/2017		5/30/2018	20.78514	5/30/2019	15.64139	5/29/2020	
5/31/2017		5/31/2018	23.75579	5/31/2019	15.90063	5/30/2020	
6/1/2017		6/1/2018	19.83626	6/1/2019	11.94458	5/31/2020	
6/2/2017		6/2/2018	20.16396	6/2/2019	9.279444	6/1/2020	
6/3/2017		6/3/2018	21.14708	6/3/2019	12.08847	6/2/2020	
6/4/2017		6/4/2018	24.11769	6/4/2019	11.03528	6/3/2020	
6/5/2017		6/5/2018	11.8799	6/5/2019	9.998852	6/4/2020	42.09149
6/6/2017		6/6/2018	14.74704	6/6/2019	8.613889	6/5/2020	17.97095
6/7/2017		6/7/2018	12.57517	6/7/2019	5.336458	6/6/2020	10.25424
6/8/2017		6/8/2018	22.81345	6/8/2019	8.537917	6/7/2020	19.15355

6/9/2017		6/9/2018	32.64553	6/9/2019	10.21	6/8/2020	14.81979
6/10/2017		6/10/2018	16.27929	6/10/2019	10.12757	6/9/2020	23.14437
6/11/2017		6/11/2018	17.93596	6/11/2019	11.19864	6/10/2020	24.18701
6/12/2017		6/12/2018	16.51317	6/12/2019	9.669236	6/11/2020	25.71479
6/13/2017		6/13/2018	31.50752	6/13/2019	11.35375	6/12/2020	15.2579
6/14/2017		6/14/2018	15.07579	6/14/2019	10.98576	6/13/2020	11.01667
6/15/2017		6/15/2018	11.59578	6/15/2019	8.411111	6/14/2020	6.666111
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8/3/2017		8/3/2018	3.163264	8/3/2019	24.89313	8/2/2020	8.896875
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9/1/2017	15.32458	9/1/2018	3.120722	9/1/2019		8/31/2020	13.5829
9/2/2017	14.20409	9/2/2018	2.631131	9/2/2019		9/1/2020	13.99858
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12/26/2017	92.07774	12/26/2018	26.69369	12/26/2019		12/25/2020	71.91727
12/27/2017	104.7688	12/27/2018	28.57452	12/27/2019		12/26/2020	70.9316
12/28/2017	94.01422	12/28/2018	28.98307	12/28/2019		12/27/2020	82.97076
12/29/2017	94.16532	12/29/2018	29.41954	12/29/2019		12/28/2020	78.44571
12/30/2017	97.89228	12/30/2018	30.65839	12/30/2019		12/29/2020	79.33715

12/31/2017	96.49554	12/31/2018	31.80755	12/31/2019		12/30/2020	90.28924
						12/31/2020	94.06316

PM₁₀ daily average for Bhaktapur station

2017	PM10 daily	2018	PM10daily	2019	PM10 daily	2020	PM10 daily
1/1/2017		1/1/2018	157.1283	1/1/2019	35.86281	1/1/2020	
1/2/2017		1/2/2018		1/2/2019	35.21173	1/2/2020	
1/3/2017		1/3/2018		1/3/2019	34.45092	1/3/2020	
1/4/2017		1/4/2018		1/4/2019	33.91449	1/4/2020	
1/5/2017		1/5/2018	218.566	1/5/2019	41.10704	1/5/2020	
1/6/2017		1/6/2018	207.9342	1/6/2019	37.66385	1/6/2020	
1/7/2017		1/7/2018	174.9141	1/7/2019	39.5675	1/7/2020	
1/8/2017		1/8/2018	191.4665	1/8/2019	31.98336	1/8/2020	
1/9/2017		1/9/2018	232.1868	1/9/2019	30.04072	1/9/2020	
1/10/2017		1/10/2018	237.4336	1/10/2019	37.90255	1/10/2020	
1/11/2017		1/11/2018	204.633	1/11/2019	42.13605	1/11/2020	
1/12/2017		1/12/2018	202.9636	1/12/2019	43.39539	1/12/2020	
1/13/2017		1/13/2018	166.1572	1/13/2019	40.1353	1/13/2020	
1/14/2017		1/14/2018	137.1725	1/14/2019	40.06578	1/14/2020	
1/15/2017		1/15/2018	146.5741	1/15/2019	34.23097	1/15/2020	
1/16/2017		1/16/2018	142.1746	1/16/2019	37.69948	1/16/2020	
1/17/2017		1/17/2018		1/17/2019	37.04745	1/17/2020	
1/18/2017		1/18/2018	145.4957	1/18/2019	32.91833	1/18/2020	
1/19/2017		1/19/2018	167.7867	1/19/2019	30.61235	1/19/2020	
1/20/2017		1/20/2018	154.5642	1/20/2019	31.94596	1/20/2020	
1/21/2017		1/21/2018	120.0643	1/21/2019	29.64691	1/21/2020	
1/22/2017		1/22/2018	156.9005	1/22/2019	30.80781	1/22/2020	
1/23/2017		1/23/2018	150.303	1/23/2019	10.94563	1/23/2020	
1/24/2017		1/24/2018	95.46492	1/24/2019	23.68574	1/24/2020	
1/25/2017		1/25/2018	118.7359	1/25/2019	22.26504	1/25/2020	
1/26/2017		1/26/2018	106.3276	1/26/2019	13.53897	1/26/2020	
1/27/2017		1/27/2018	106.1677	1/27/2019	22.04583	1/27/2020	
1/28/2017		1/28/2018	110.1987	1/28/2019	23.61219	1/28/2020	
1/29/2017		1/29/2018	123.4113	1/29/2019	23.59218	1/29/2020	
1/30/2017		1/30/2018	123.5014	1/30/2019	21.08157	1/30/2020	
1/31/2017		1/31/2018	126.3836	1/31/2019	25.18947	1/31/2020	
2/1/2017		2/1/2018	122.3075	2/1/2019		2/1/2020	
2/2/2017		2/2/2018	139.6229	2/2/2019	17.93766	2/2/2020	
2/3/2017		2/3/2018	115.0428	2/3/2019		2/3/2020	

2/4/2017		2/4/2018	138.9294	2/4/2019		2/4/2020	
2/5/2017		2/5/2018	118.4757	2/5/2019	39.84078	2/5/2020	
2/6/2017		2/6/2018	145.9152	2/6/2019	38.33664	2/6/2020	109.991
2/7/2017		2/7/2018	147.2469	2/7/2019	23.97043	2/7/2020	153.3137
2/8/2017		2/8/2018	138.6726	2/8/2019	11.03586	2/8/2020	183.7368
2/9/2017		2/9/2018	147.7601	2/9/2019	8.401	2/9/2020	192.6352
2/10/2017		2/10/2018	119.6202	2/10/2019	18.38491	2/10/2020	
2/11/2017		2/11/2018	133.5259	2/11/2019	23.52972	2/11/2020	
2/12/2017		2/12/2018	173.0741	2/12/2019	27.39532	2/12/2020	
2/13/2017		2/13/2018	101.9313	2/13/2019	30.29844	2/13/2020	
2/14/2017		2/14/2018	107.4164	2/14/2019	36.28785	2/14/2020	
2/15/2017		2/15/2018	83.19032	2/15/2019	33.09051	2/15/2020	
2/16/2017		2/16/2018	84.29235	2/16/2019	19.23321	2/16/2020	
2/17/2017		2/17/2018	87.19229	2/17/2019	19.78876	2/17/2020	
2/18/2017		2/18/2018	85.69344	2/18/2019	20.25893	2/18/2020	
2/19/2017		2/19/2018	93.9421	2/19/2019	23.0739	2/19/2020	
2/20/2017		2/20/2018	98.35688	2/20/2019	27.48649	2/20/2020	
2/21/2017		2/21/2018	98.8388	2/21/2019	32.10996	2/21/2020	
2/22/2017		2/22/2018	119.0032	2/22/2019	33.18257	2/22/2020	
2/23/2017		2/23/2018	87.81263	2/23/2019	26.57414	2/23/2020	8.366666
2/24/2017		2/24/2018	101.8507	2/24/2019	32.77602	2/24/2020	
2/25/2017		2/25/2018	132.5733	2/25/2019	22.25535	2/25/2020	
2/26/2017		2/26/2018	97.51156	2/26/2019	25.31537	2/26/2020	
2/27/2017		2/27/2018	92.66056	2/27/2019	21.07484	2/27/2020	
2/28/2017		2/28/2018	84.20799	2/28/2019	8.198729	2/28/2020	
3/1/2017		3/1/2018	78.38174	3/1/2019	17.77041	2/29/2020	
3/2/2017		3/2/2018	64.56629	3/2/2019	25.36311	3/1/2020	
3/3/2017		3/3/2018	47.47896	3/3/2019	25.46553	3/2/2020	
3/4/2017		3/4/2018	77.34136	3/4/2019	30.27569	3/3/2020	
3/5/2017		3/5/2018	100.086	3/5/2019	29.31769	3/4/2020	
3/6/2017		3/6/2018	84.16785	3/6/2019	23.0169	3/5/2020	
3/7/2017		3/7/2018	88.52721	3/7/2019	25.59023	3/6/2020	0.024321
3/8/2017		3/8/2018	80.66799	3/8/2019	29.00245	3/7/2020	
3/9/2017		3/9/2018	41.0912	3/9/2019	30.02088	3/8/2020	
3/10/2017		3/10/2018		3/10/2019	31.37602	3/9/2020	
3/11/2017		3/11/2018		3/11/2019	30.27303	3/10/2020	
3/12/2017		3/12/2018		3/12/2019	37.77257	3/11/2020	
3/13/2017		3/13/2018	150.8298	3/13/2019	33.47667	3/12/2020	
3/14/2017		3/14/2018	175.8817	3/14/2019	31.60021	3/13/2020	181.4865
3/15/2017		3/15/2018	116.4713	3/15/2019	29.35617	3/14/2020	116.7956
3/16/2017		3/16/2018	60.95264	3/16/2019	25.2168	3/15/2020	109.6403

3/17/2017		3/17/2018	99.38821	3/17/2019	38.88236	3/16/2020	137.9839
3/18/2017		3/18/2018	121.2304	3/18/2019	37.17368	3/17/2020	123.8728
3/19/2017		3/19/2018	141.9601	3/19/2019	26.02833	3/18/2020	146.8011
3/20/2017		3/20/2018	139.1858	3/20/2019	20.67896	3/19/2020	144.3563
3/21/2017		3/21/2018	138.5315	3/21/2019	21.47389	3/20/2020	158.0318
3/22/2017		3/22/2018	125.9736	3/22/2019	24.05583	3/21/2020	92.92196
3/23/2017		3/23/2018	119.1331	3/23/2019	35.77632	3/22/2020	114.0285
3/24/2017		3/24/2018	112.0582	3/24/2019	48.10014	3/23/2020	
3/25/2017		3/25/2018	123.7877	3/25/2019	49.54625	3/24/2020	
3/26/2017		3/26/2018	127.5775	3/26/2019	11.60883	3/25/2020	
3/27/2017		3/27/2018	103.7365	3/27/2019	15.17911	3/26/2020	
3/28/2017		3/28/2018	107.0958	3/28/2019	21.28083	3/27/2020	
3/29/2017		3/29/2018	74.20667	3/29/2019	31.72278	3/28/2020	
3/30/2017		3/30/2018	71.39073	3/30/2019	36.44535	3/29/2020	
3/31/2017		3/31/2018	54.31307	3/31/2019	22.34653	3/30/2020	
4/1/2017		4/1/2018	69.7596	4/1/2019	16.49418	3/31/2020	
4/2/2017		4/2/2018	70.13584	4/2/2019	19.11021	4/1/2020	
4/3/2017		4/3/2018	44.7795	4/3/2019	22.43576	4/2/2020	
4/4/2017		4/4/2018	37.62714	4/4/2019	26.20086	4/3/2020	
4/5/2017		4/5/2018	34.93996	4/5/2019	31.56666	4/4/2020	
4/6/2017		4/6/2018	42.05286	4/6/2019	19.60333	4/5/2020	
4/7/2017		4/7/2018	38.91178	4/7/2019	11.09532	4/6/2020	
4/8/2017		4/8/2018	48.68319	4/8/2019	15.67362	4/7/2020	
4/9/2017		4/9/2018	46.29708	4/9/2019	16.98396	4/8/2020	
4/10/2017		4/10/2018	48.4889	4/10/2019	17.40056	4/9/2020	
4/11/2017		4/11/2018	66.44368	4/11/2019	18.63952	4/10/2020	
4/12/2017		4/12/2018	41.48843	4/12/2019	23.33997	4/11/2020	
4/13/2017		4/13/2018	45.07736	4/13/2019	22.58278	4/12/2020	
4/14/2017		4/14/2018	45.41085	4/14/2019	16.77912	4/13/2020	
4/15/2017		4/15/2018	57.71074	4/15/2019	15.18493	4/14/2020	
4/16/2017		4/16/2018	58.377	4/16/2019	15.48765	4/15/2020	
4/17/2017		4/17/2018	41.76135	4/17/2019	10.72383	4/16/2020	
4/18/2017		4/18/2018	42.94521	4/18/2019	17.13806	4/17/2020	
4/19/2017		4/19/2018	46.72854	4/19/2019	18.90645	4/18/2020	
4/20/2017		4/20/2018	50.39913	4/20/2019	21.18403	4/19/2020	50.95489
4/21/2017		4/21/2018	69.14037	4/21/2019	29.0309	4/20/2020	62.13206
4/22/2017		4/22/2018	66.66794	4/22/2019	31.58986	4/21/2020	23.06347
4/23/2017		4/23/2018	89.66598	4/23/2019	27.33042	4/22/2020	30.06249
4/24/2017		4/24/2018	89.98323	4/24/2019	28.0094	4/23/2020	50.83305
4/25/2017		4/25/2018	78.88458	4/25/2019	24.40146	4/24/2020	52.54316
4/26/2017		4/26/2018	58.11257	4/26/2019	27.42431	4/25/2020	45.92943

4/27/2017		4/27/2018	45.92521	4/27/2019	29.17938	4/26/2020	48.30452
4/28/2017		4/28/2018	34.83315	4/28/2019	27.24417	4/27/2020	60.42608
4/29/2017		4/29/2018	31.01243	4/29/2019	29.38806	4/28/2020	39.09764
4/30/2017		4/30/2018	27.57387	4/30/2019	29.97667	4/29/2020	31.36311
5/1/2017		5/1/2018	31.97904	5/1/2019	32.65243	4/30/2020	39.20321
5/2/2017		5/2/2018	39.59368	5/2/2019	26.21319	5/1/2020	30.51131
5/3/2017		5/3/2018	24.80778	5/3/2019	20.93285	5/2/2020	39.82027
5/4/2017		5/4/2018	30.97312	5/4/2019	14.59143	5/3/2020	45.82332
5/5/2017		5/5/2018	31.55042	5/5/2019	21.47559	5/4/2020	25.32397
5/6/2017		5/6/2018	41.2116	5/6/2019	27.9925	5/5/2020	47.23632
5/7/2017		5/7/2018	62.15216	5/7/2019	36.25	5/6/2020	24.95225
5/8/2017		5/8/2018	106.9413	5/8/2019	37.838	5/7/2020	31.6898
5/9/2017		5/9/2018	44.03578	5/9/2019	40.59444	5/8/2020	31.47951
5/10/2017		5/10/2018	59.4641	5/10/2019	34.76722	5/9/2020	45.84385
5/11/2017		5/11/2018	42.10806	5/11/2019	41.16361	5/10/2020	45.85372
5/12/2017		5/12/2018	35.12303	5/12/2019	24.16479	5/11/2020	78.96872
5/13/2017		5/13/2018	29.58917	5/13/2019	20.06007	5/12/2020	73.68492
5/14/2017		5/14/2018	15.74444	5/14/2019	22.10306	5/13/2020	62.15823
5/15/2017		5/15/2018	27.43185	5/15/2019	19.44083	5/14/2020	
5/16/2017		5/16/2018	32.65083	5/16/2019	14.23265	5/15/2020	
5/17/2017		5/17/2018	23.01102	5/17/2019	20.48104	5/16/2020	
5/18/2017		5/18/2018	35.68012	5/18/2019	23.28493	5/17/2020	
5/19/2017		5/19/2018	35.13167	5/19/2019	19.12903	5/18/2020	
5/20/2017		5/20/2018	29.50362	5/20/2019	22.60135	5/19/2020	
5/21/2017		5/21/2018	33.07042	5/21/2019	24.15681	5/20/2020	
5/22/2017		5/22/2018	31.26118	5/22/2019	24.3716	5/21/2020	
5/23/2017		5/23/2018	27.27429	5/23/2019	17.4309	5/22/2020	
5/24/2017		5/24/2018	23.08903	5/24/2019	21.20132	5/23/2020	
5/25/2017		5/25/2018	34.16333	5/25/2019	16.37771	5/24/2020	
5/26/2017		5/26/2018	40.58695	5/26/2019	17.90972	5/25/2020	
5/27/2017		5/27/2018	41.35056	5/27/2019	20.34456	5/26/2020	
5/28/2017		5/28/2018	28.73701	5/28/2019	21.15572	5/27/2020	
5/29/2017		5/29/2018	21.2038	5/29/2019	21.07167	5/28/2020	
5/30/2017		5/30/2018	21.45914	5/30/2019	16.77167	5/29/2020	
5/31/2017		5/31/2018	26.50325	5/31/2019	19.42222	5/30/2020	
6/1/2017		6/1/2018	21.53868	6/1/2019	14.16568	5/31/2020	
6/2/2017		6/2/2018	21.41882	6/2/2019	11.56097	6/1/2020	
6/3/2017		6/3/2018	24.32833	6/3/2019	14.62854	6/2/2020	
6/4/2017		6/4/2018	27.59732	6/4/2019	14.73646	6/3/2020	
6/5/2017		6/5/2018	14.68481	6/5/2019	12.27317	6/4/2020	60.81864
6/6/2017		6/6/2018	19.7701	6/6/2019	9.530278	6/5/2020	23.66518

6/7/2017		6/7/2018	14.16835	6/7/2019	7.723542	6/6/2020	14.27419
6/8/2017		6/8/2018	25.74271	6/8/2019	11.46444	6/7/2020	33.67368
6/9/2017		6/9/2018	35.99944	6/9/2019	14.0149	6/8/2020	23.76188
6/10/2017		6/10/2018	18.40077	6/10/2019	12.72632	6/9/2020	40.7741
6/11/2017		6/11/2018	21.22411	6/11/2019	15.14537	6/10/2020	37.64944
6/12/2017		6/12/2018	19.46401	6/12/2019	13.75118	6/11/2020	45.12681
6/13/2017		6/13/2018	35.09723	6/13/2019	16.0609	6/12/2020	28.6644
6/14/2017		6/14/2018	17.59159	6/14/2019	15.44979	6/13/2020	19.60065
6/15/2017		6/15/2018	13.37224	6/15/2019	11.44257	6/14/2020	12.89764
6/16/2017		6/16/2018	17.88701	6/16/2019	16.69626	6/15/2020	15.90146
6/17/2017		6/17/2018	15.89538	6/17/2019	15.06653	6/16/2020	11.46188
6/18/2017		6/18/2018	22.67143	6/18/2019	7.815636	6/17/2020	12.91139
6/19/2017		6/19/2018	18.76186	6/19/2019	11.23882	6/18/2020	12.11978
6/20/2017		6/20/2018	18.92999	6/20/2019	8.390417	6/19/2020	16.49324
6/21/2017		6/21/2018	24.62924	6/21/2019	9.893089	6/20/2020	22.79549
6/22/2017		6/22/2018	30.1723	6/22/2019	4.611736	6/21/2020	27.67514
6/23/2017		6/23/2018	50.3523	6/23/2019	5.056458	6/22/2020	10.97139
6/24/2017		6/24/2018	40.0252	6/24/2019	7.764306	6/23/2020	27.63287
6/25/2017		6/25/2018	40.24389	6/25/2019	7.421458	6/24/2020	25.52403
6/26/2017		6/26/2018		6/26/2019	9.55875	6/25/2020	21.0475
6/27/2017		6/27/2018		6/27/2019	7.823333	6/26/2020	14.51201
6/28/2017		6/28/2018		6/28/2019	9.663195	6/27/2020	20.69819
6/29/2017		6/29/2018		6/29/2019	10.42271	6/28/2020	18.72125
6/30/2017		6/30/2018		6/30/2019	11.0206	6/29/2020	18.90583
7/1/2017		7/1/2018		7/1/2019	9.689236	6/30/2020	32.82083
7/2/2017		7/2/2018		7/2/2019	6.208125	7/1/2020	42.82938
7/3/2017		7/3/2018		7/3/2019	4.8275	7/2/2020	37.6692
7/4/2017		7/4/2018		7/4/2019	11.60479	7/3/2020	
7/5/2017		7/5/2018		7/5/2019	58.21014	7/4/2020	27.41705
7/6/2017		7/6/2018		7/6/2019	51.12667	7/5/2020	20.64673
7/7/2017		7/7/2018		7/7/2019	21.11319	7/6/2020	14.02388
7/8/2017		7/8/2018		7/8/2019	23.55452	7/7/2020	14.16832
7/9/2017		7/9/2018		7/9/2019	77.10764	7/8/2020	17.12597
7/10/2017		7/10/2018		7/10/2019	63.89611	7/9/2020	13.99438
7/11/2017		7/11/2018		7/11/2019	56.19239	7/10/2020	12.18236
7/12/2017		7/12/2018		7/12/2019	33.21802	7/11/2020	13.46514
7/13/2017		7/13/2018		7/13/2019	53.56347	7/12/2020	20.58993
7/14/2017		7/14/2018		7/14/2019	57.00146	7/13/2020	22.04153
7/15/2017		7/15/2018		7/15/2019	67.12458	7/14/2020	18.3834
7/16/2017		7/16/2018		7/16/2019	70.42479	7/15/2020	23.3925
7/17/2017		7/17/2018		7/17/2019	27.24806	7/16/2020	15.23458

7/18/2017		7/18/2018		7/18/2019	24.28568	7/17/2020	18.34632
7/19/2017		7/19/2018		7/19/2019	33.92167	7/18/2020	13.03382
7/20/2017		7/20/2018		7/20/2019	59.46618	7/19/2020	12.94806
7/21/2017		7/21/2018		7/21/2019	53.36626	7/20/2020	10.75382
7/22/2017		7/22/2018		7/22/2019	65.30569	7/21/2020	13.47222
7/23/2017		7/23/2018		7/23/2019	81.1907	7/22/2020	16.62944
7/24/2017		7/24/2018		7/24/2019	73.79799	7/23/2020	12.93
7/25/2017		7/25/2018	3.297966	7/25/2019	76.80903	7/24/2020	11.43312
7/26/2017		7/26/2018	2.865606	7/26/2019	41.63097	7/25/2020	17.57396
7/27/2017		7/27/2018	2.787594	7/27/2019	11.44049	7/26/2020	22.61035
7/28/2017		7/28/2018	2.500438	7/28/2019		7/27/2020	25.71764
7/29/2017		7/29/2018	3.14002	7/29/2019		7/28/2020	18.33919
7/30/2017		7/30/2018	4.021027	7/30/2019		7/29/2020	19.03771
7/31/2017		7/31/2018	3.44087	7/31/2019		7/30/2020	25.22243
8/1/2017		8/1/2018	3.052232	8/1/2019	32.3706	7/31/2020	23.54529
8/2/2017		8/2/2018	2.973125	8/2/2019	13.14263	8/1/2020	20.96938
8/3/2017		8/3/2018	3.398403	8/3/2019	26.21323	8/2/2020	18.58771
8/4/2017	30.6608	8/4/2018	3.973365	8/4/2019	4.738819	8/3/2020	17.44146
8/5/2017	12.99733	8/5/2018	3.125689	8/5/2019	3.004514	8/4/2020	22.14606
8/6/2017	34.83078	8/6/2018	3.118899	8/6/2019	3.807244	8/5/2020	14.80342
8/7/2017		8/7/2018	4.130458	8/7/2019	2.556061	8/6/2020	14.0046
8/8/2017		8/8/2018	3.260081	8/8/2019	1.660857	8/7/2020	20.35232
8/9/2017		8/9/2018	5.649931	8/9/2019	4.163072	8/8/2020	16.23313
8/10/2017		8/10/2018	5.196875	8/10/2019	8.302046	8/9/2020	11.69699
8/11/2017		8/11/2018	3.716458	8/11/2019		8/10/2020	18.5741
8/12/2017		8/12/2018	4.034001	8/12/2019		8/11/2020	12.10759
8/13/2017		8/13/2018	3.017847	8/13/2019		8/12/2020	12.04382
8/14/2017		8/14/2018	4.451667	8/14/2019		8/13/2020	18.19965
8/15/2017		8/15/2018	2.655803	8/15/2019		8/14/2020	17.53728
8/16/2017		8/16/2018	3.200139	8/16/2019		8/15/2020	17.84218
8/17/2017		8/17/2018	3.846806	8/17/2019		8/16/2020	17.37852
8/18/2017		8/18/2018	2.846667	8/18/2019		8/17/2020	13.34634
8/19/2017		8/19/2018	3.679792	8/19/2019		8/18/2020	
8/20/2017	23.49954	8/20/2018	4.96529	8/20/2019		8/19/2020	
8/21/2017	32.27317	8/21/2018	3.813448	8/21/2019		8/20/2020	10.07202
8/22/2017	24.91585	8/22/2018	2.746036	8/22/2019		8/21/2020	10.73477
8/23/2017	36.7833	8/23/2018	2.618914	8/23/2019		8/22/2020	12.0874
8/24/2017	38.18618	8/24/2018	2.618333	8/24/2019		8/23/2020	11.59835
8/25/2017	39.30354	8/25/2018	2.554665	8/25/2019		8/24/2020	11.98869
8/26/2017	19.60208	8/26/2018	3.723615	8/26/2019		8/25/2020	10.50579
8/27/2017	27.64531	8/27/2018	2.121699	8/27/2019		8/26/2020	14.57418

8/28/2017	26.93891	8/28/2018	2.286584	8/28/2019		8/27/2020	16.45
8/29/2017	38.74679	8/29/2018	3.101212	8/29/2019		8/28/2020	17.82279
8/30/2017	46.67297	8/30/2018	3.708605	8/30/2019		8/29/2020	17.39148
8/31/2017	24.42734	8/31/2018	2.681063	8/31/2019		8/30/2020	22.16472
9/1/2017	30.13851	9/1/2018	3.792381	9/1/2019		8/31/2020	22.58211
9/2/2017	27.07793	9/2/2018	2.915478	9/2/2019		9/1/2020	20.78124
9/3/2017	32.72505	9/3/2018	3.521994	9/3/2019		9/2/2020	17.56524
9/4/2017	39.7746	9/4/2018	5.009275	9/4/2019		9/3/2020	17.53039
9/5/2017	51.5084	9/5/2018	6.670332	9/5/2019		9/4/2020	25.45002
9/6/2017	61.14005	9/6/2018	5.241862	9/6/2019		9/5/2020	26.81638
9/7/2017	53.2674	9/7/2018	4.180972	9/7/2019		9/6/2020	33.90507
9/8/2017	72.96788	9/8/2018	7.253528	9/8/2019		9/7/2020	31.59451
9/9/2017	70.78918	9/9/2018	8.633734	9/9/2019		9/8/2020	25.51083
9/10/2017	92.25297	9/10/2018	3.806135	9/10/2019		9/9/2020	25.34953
9/11/2017	69.04822	9/11/2018	4.292912	9/11/2019		9/10/2020	32.19311
9/12/2017	50.02993	9/12/2018	4.542361	9/12/2019		9/11/2020	32.76366
9/13/2017	46.59357	9/13/2018	5.625041	9/13/2019		9/12/2020	28.19668
9/14/2017	65.52377	9/14/2018	6.037636	9/14/2019		9/13/2020	19.74605
9/15/2017	95.2174	9/15/2018	6.072947	9/15/2019		9/14/2020	32.57465
9/16/2017	76.11401	9/16/2018	8.106949	9/16/2019	5.233591	9/15/2020	33.27077
9/17/2017	62.29808	9/17/2018	9.768189	9/17/2019	3.669214	9/16/2020	31.5841
9/18/2017	26.77601	9/18/2018	9.380747	9/18/2019	2.778861	9/17/2020	42.3391
9/19/2017	28.45333	9/19/2018	10.03787	9/19/2019	6.0222	9/18/2020	36.74181
9/20/2017		9/20/2018	8.588371	9/20/2019	7.019306	9/19/2020	32.11221
9/21/2017		9/21/2018	5.973503	9/21/2019	4.773403	9/20/2020	38.95917
9/22/2017		9/22/2018	5.945943	9/22/2019	4.810758	9/21/2020	25.95204
9/23/2017		9/23/2018	8.153479	9/23/2019	5.313889	9/22/2020	20.50201
9/24/2017	37.56393	9/24/2018	12.82817	9/24/2019	5.903681	9/23/2020	6.01039
9/25/2017	54.74838	9/25/2018	14.17197	9/25/2019	2.322623	9/24/2020	6.803194
9/26/2017	61.22153	9/26/2018	13.42383	9/26/2019	1.581319	9/25/2020	11.49287
9/27/2017	65.9155	9/27/2018	11.52477	9/27/2019	2.045903	9/26/2020	19.68062
9/28/2017	71.7243	9/28/2018	13.07213	9/28/2019	1.596119	9/27/2020	27.19661
9/29/2017	44.49075	9/29/2018	13.78146	9/29/2019	2.206042	9/28/2020	34.89792
9/30/2017	23.47829	9/30/2018	14.90487	9/30/2019	3.052079	9/29/2020	41.76934
10/1/2017	22.57949	10/1/2018	16.27157	10/1/2019	3.402708	9/30/2020	46.38382
10/2/2017	21.19292	10/2/2018	15.36284	10/2/2019	5.781181	10/1/2020	50.60614
10/3/2017	33.84304	10/3/2018	16.53985	10/3/2019	6.600208	10/2/2020	49.6418
10/4/2017	31.08854	10/4/2018	18.80562	10/4/2019	5.935764	10/3/2020	56.33663
10/5/2017	36.31838	10/5/2018	15.88503	10/5/2019	5.586667	10/4/2020	50.00527
10/6/2017	41.29541	10/6/2018	14.10108	10/6/2019	6.207847	10/5/2020	50.64448
10/7/2017	39.03902	10/7/2018	15.69459	10/7/2019	7.48375	10/6/2020	52.62361

10/8/2017	59.63493	10/8/2018	16.48251	10/8/2019	6.591797	10/7/2020	62.37803
10/9/2017	58.23029	10/9/2018	16.05989	10/9/2019	3.907639	10/8/2020	62.4866
10/10/2017	62.46815	10/10/2018	16.97371	10/10/2019	5.094097	10/9/2020	61.29328
10/11/2017	64.88972	10/11/2018	14.68916	10/11/2019	6.522639	10/10/2020	57.10889
10/12/2017	57.52152	10/12/2018	11.17512	10/12/2019	7.386389	10/11/2020	52.93139
10/13/2017	56.71561	10/13/2018	8.214554	10/13/2019	10.20576	10/12/2020	48.73694
10/14/2017	71.34742	10/14/2018	12.96573	10/14/2019	10.73771	10/13/2020	53.10882
10/15/2017	118.9584	10/15/2018	15.09596	10/15/2019	10.73285	10/14/2020	60.6496
10/16/2017	104.0333	10/16/2018	15.12004	10/16/2019	10.46861	10/15/2020	60.34111
10/17/2017	106.6984	10/17/2018	18.65877	10/17/2019	8.998056	10/16/2020	60.99743
10/18/2017	100.3653	10/18/2018	16.72394	10/18/2019	10.14111	10/17/2020	61.35731
10/19/2017	84.12293	10/19/2018	14.20892	10/19/2019	11.3154	10/18/2020	57.84049
10/20/2017	55.37428	10/20/2018	15.37592	10/20/2019	11.70413	10/19/2020	57.82229
10/21/2017	44.12874	10/21/2018	14.67498	10/21/2019	11.21146	10/20/2020	
10/22/2017	52.25975	10/22/2018	15.58346	10/22/2019	10.25285	10/21/2020	
10/23/2017	98.77121	10/23/2018	18.55452	10/23/2019	12.40805	10/22/2020	
10/24/2017	126.575	10/24/2018	20.62844	10/24/2019	11.01546	10/23/2020	
10/25/2017	124.0717	10/25/2018	21.30907	10/25/2019	14.15826	10/24/2020	
10/26/2017	138.062	10/26/2018	21.27292	10/26/2019	12.02056	10/25/2020	
10/27/2017	113.0778	10/27/2018	18.21942	10/27/2019	9.823125	10/26/2020	
10/28/2017	80.39737	10/28/2018	16.09708	10/28/2019	11.81965	10/27/2020	
10/29/2017	65.20438	10/29/2018	20.85174	10/29/2019	8.641995	10/28/2020	
10/30/2017	80.18978	10/30/2018	21.34076	10/30/2019	9.436597	10/29/2020	
10/31/2017	87.05627	10/31/2018	28.26063	10/31/2019	9.296528	10/30/2020	
11/1/2017	86.95778	11/1/2018	18.55153	11/1/2019	12.81208	10/31/2020	
11/2/2017	124.6278	11/2/2018	16.85287	11/2/2019	13.01688	11/1/2020	
11/3/2017	125.8274	11/3/2018	16.1868	11/3/2019	12.00451	11/2/2020	
11/4/2017	106.4151	11/4/2018	27.97931	11/4/2019	13.19992	11/3/2020	
11/5/2017		11/5/2018	28.37684	11/5/2019	11.43435	11/4/2020	
11/6/2017		11/6/2018	22.97117	11/6/2019		11/5/2020	
11/7/2017		11/7/2018	21.15075	11/7/2019		11/6/2020	
11/8/2017		11/8/2018	23.24556	11/8/2019		11/7/2020	
11/9/2017		11/9/2018	20.80475	11/9/2019		11/8/2020	
11/10/2017		11/10/2018	20.29264	11/10/2019		11/9/2020	
11/11/2017		11/11/2018	18.91938	11/11/2019		11/10/2020	
11/12/2017		11/12/2018	21.81338	11/12/2019		11/11/2020	
11/13/2017	188.7044	11/13/2018	25.31264	11/13/2019		11/12/2020	
11/14/2017	155.6488	11/14/2018	31.42	11/14/2019		11/13/2020	
11/15/2017	164.8247	11/15/2018	29.05838	11/15/2019	125.5792	11/14/2020	
11/16/2017	223.8749	11/16/2018	38.39853	11/16/2019	104.5483	11/15/2020	
11/17/2017	167.3473	11/17/2018	28.61107	11/17/2019	104.3739	11/16/2020	

11/18/2017	142.9123	11/18/2018	27.10226	11/18/2019	135.2164	11/17/2020	
11/19/2017	156.4702	11/19/2018	27.20854	11/19/2019	140.5319	11/18/2020	
11/20/2017	181.1154	11/20/2018	33.88898	11/20/2019	141.408	11/19/2020	
11/21/2017	165.0572	11/21/2018	48.23576	11/21/2019	149.7032	11/20/2020	
11/22/2017	159.698	11/22/2018	40.71703	11/22/2019	152.1909	11/21/2020	
11/23/2017	148.7257	11/23/2018	30.29446	11/23/2019	166.414	11/22/2020	
11/24/2017	139.3686	11/24/2018	28.57389	11/24/2019	157.1027	11/23/2020	
11/25/2017	157.7093	11/25/2018	30.51662	11/25/2019	145.853	11/24/2020	
11/26/2017	163.1786	11/26/2018	24.55748	11/26/2019	161.8519	11/25/2020	
11/27/2017	146.7484	11/27/2018	27.75922	11/27/2019	177.6638	11/26/2020	
11/28/2017	143.6416	11/28/2018	35.53146	11/28/2019	177.3502	11/27/2020	
11/29/2017	181.0547	11/29/2018	35.21917	11/29/2019	281.1483	11/28/2020	
11/30/2017	178.7901	11/30/2018	27.54557	11/30/2019	157.7444	11/29/2020	
12/1/2017	180.6573	12/1/2018	27.52271	12/1/2019	204.0186	11/30/2020	
12/2/2017	154.929	12/2/2018	32.14757	12/2/2019	174.9954	12/1/2020	
12/3/2017	138.224	12/3/2018	31.57307	12/3/2019	203.4683	12/2/2020	
12/4/2017	140.0686	12/4/2018	36.32363	12/4/2019	205.3839	12/3/2020	
12/5/2017	138.8776	12/5/2018	36.37163	12/5/2019	259.5973	12/4/2020	
12/6/2017	139.8609	12/6/2018	31.8525	12/6/2019	257.0088	12/5/2020	
12/7/2017	108.7427	12/7/2018	29.34818	12/7/2019	257.2983	12/6/2020	
12/8/2017	107.9378	12/8/2018	28.51231	12/8/2019	255.6133	12/7/2020	
12/9/2017	138.4628	12/9/2018	27.31846	12/9/2019	170.2494	12/8/2020	
12/10/2017	179.0985	12/10/2018	25.38904	12/10/2019	185.7922	12/9/2020	
12/11/2017	165.5311	12/11/2018	24.43511	12/11/2019	174.4715	12/10/2020	
12/12/2017	161.9298	12/12/2018	22.51724	12/12/2019	155.6995	12/11/2020	173.6029
12/13/2017	199.1334	12/13/2018	26.6147	12/13/2019	82.80924	12/12/2020	135.7789
12/14/2017	234.5573	12/14/2018	29.59832	12/14/2019	39.64485	12/13/2020	123.515
12/15/2017	248.5986	12/15/2018	25.01441	12/15/2019	90.11091	12/14/2020	119.5368
12/16/2017	248.4761	12/16/2018	27.94159	12/16/2019	93.65976	12/15/2020	129.6253
12/17/2017	225.2011	12/17/2018	39.82172	12/17/2019		12/16/2020	147.3749
12/18/2017	200.1276	12/18/2018	31.84852	12/18/2019		12/17/2020	123.9475
12/19/2017	193.2881	12/19/2018	46.55252	12/19/2019		12/18/2020	143.7265
12/20/2017	213.1558	12/20/2018	48.4295	12/20/2019		12/19/2020	135.5769
12/21/2017	220.481	12/21/2018	46.55871	12/21/2019		12/20/2020	139.2164
12/22/2017	192.0089	12/22/2018	40.23839	12/22/2019		12/21/2020	151.607
12/23/2017	166.4767	12/23/2018	40.33329	12/23/2019		12/22/2020	136.9645
12/24/2017	193.0119	12/24/2018	39.3592	12/24/2019		12/23/2020	155.5121
12/25/2017	192.4294	12/25/2018	36.16253	12/25/2019		12/24/2020	157.7731
12/26/2017	191.8332	12/26/2018	30.29328	12/26/2019		12/25/2020	175.9194
12/27/2017	265.3247	12/27/2018	33.83518	12/27/2019		12/26/2020	142.5448
12/28/2017	233.6686	12/28/2018	32.46002	12/28/2019		12/27/2020	159.4596

12/29/2017	209.5704	12/29/2018	32.84145	12/29/2019		12/28/2020	145.4348
12/30/2017	193.823	12/30/2018	34.77962	12/30/2019	54.82457	12/29/2020	149.9564
12/31/2017	188.3656	12/31/2018	38.07938	12/31/2019	70.2107	12/30/2020	161.6821
						12/31/2020	170.9058

TSP daily average for Bhaktapur station

2017	TSP daily	2018	TSP daily	2019	TSP daily	2020	TSP daily
1/1/2017		1/1/2018	294.3838	1/1/2019	38.46412	1/1/2020	
1/2/2017		1/2/2018		1/2/2019	41.48082	1/2/2020	
1/3/2017		1/3/2018		1/3/2019	37.38949	1/3/2020	
1/4/2017		1/4/2018		1/4/2019	35.94179	1/4/2020	
1/5/2017		1/5/2018	364.1262	1/5/2019	42.8969	1/5/2020	
1/6/2017		1/6/2018	389.3042	1/6/2019	39.50501	1/6/2020	
1/7/2017		1/7/2018	361.2977	1/7/2019	42.07572	1/7/2020	
1/8/2017		1/8/2018	398.7696	1/8/2019	33.16898	1/8/2020	
1/9/2017		1/9/2018	413.5333	1/9/2019	31.24042	1/9/2020	
1/10/2017		1/10/2018	391.9292	1/10/2019	38.93818	1/10/2020	
1/11/2017		1/11/2018	380.3057	1/11/2019	43.05519	1/11/2020	
1/12/2017		1/12/2018	378.311	1/12/2019	44.95912	1/12/2020	
1/13/2017		1/13/2018	316.3524	1/13/2019	41.41019	1/13/2020	
1/14/2017		1/14/2018	258.7119	1/14/2019	42.18288	1/14/2020	
1/15/2017		1/15/2018	253.8455	1/15/2019	34.87243	1/15/2020	
1/16/2017		1/16/2018	219.4755	1/16/2019	38.63571	1/16/2020	
1/17/2017		1/17/2018		1/17/2019	38.22721	1/17/2020	
1/18/2017		1/18/2018	387.7219	1/18/2019	34.40855	1/18/2020	
1/19/2017		1/19/2018	323.7448	1/19/2019	31.63992	1/19/2020	
1/20/2017		1/20/2018	294.9264	1/20/2019	33.25658	1/20/2020	
1/21/2017		1/21/2018	296.6831	1/21/2019	30.85277	1/21/2020	
1/22/2017		1/22/2018	285.7924	1/22/2019	32.09846	1/22/2020	
1/23/2017		1/23/2018	289.3604	1/23/2019	10.9766	1/23/2020	
1/24/2017		1/24/2018	186.3096	1/24/2019	24.22946	1/24/2020	
1/25/2017		1/25/2018	195.721	1/25/2019	22.98555	1/25/2020	
1/26/2017		1/26/2018	179.4008	1/26/2019	13.6698	1/26/2020	
1/27/2017		1/27/2018	185.4485	1/27/2019	22.40983	1/27/2020	
1/28/2017		1/28/2018	184.2334	1/28/2019	23.89272	1/28/2020	
1/29/2017		1/29/2018	223.3575	1/29/2019	24.32729	1/29/2020	
1/30/2017		1/30/2018	220.078	1/30/2019	21.90031	1/30/2020	
1/31/2017		1/31/2018	244.503	1/31/2019	25.34211	1/31/2020	
2/1/2017		2/1/2018	219.0516	2/1/2019		2/1/2020	
2/2/2017		2/2/2018	259.1392	2/2/2019	24.33831	2/2/2020	

2/3/2017		2/3/2018	243.9138	2/3/2019		2/3/2020	
2/4/2017		2/4/2018	384.7226	2/4/2019		2/4/2020	
2/5/2017		2/5/2018	259.6878	2/5/2019	52.50641	2/5/2020	
2/6/2017		2/6/2018	372.2232	2/6/2019	44.74847	2/6/2020	444.5446
2/7/2017		2/7/2018	305.9733	2/7/2019	24.13298	2/7/2020	399.3776
2/8/2017		2/8/2018	372.8823	2/8/2019	12.71091	2/8/2020	607.5481
2/9/2017		2/9/2018	385.9877	2/9/2019	11.89539	2/9/2020	382.0145
2/10/2017		2/10/2018	316.0336	2/10/2019	23.47085	2/10/2020	
2/11/2017		2/11/2018	339.032	2/11/2019	30.87022	2/11/2020	
2/12/2017		2/12/2018	357.3706	2/12/2019	33.75406	2/12/2020	
2/13/2017		2/13/2018	148.568	2/13/2019	41.69413	2/13/2020	
2/14/2017		2/14/2018	259.1663	2/14/2019	43.76376	2/14/2020	
2/15/2017		2/15/2018	209.405	2/15/2019	46.23714	2/15/2020	
2/16/2017		2/16/2018	250.4933	2/16/2019	26.64939	2/16/2020	
2/17/2017		2/17/2018	283.426	2/17/2019	29.70873	2/17/2020	
2/18/2017		2/18/2018	218.8625	2/18/2019	29.36012	2/18/2020	
2/19/2017		2/19/2018	239.5649	2/19/2019	27.95234	2/19/2020	
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2/22/2017		2/22/2018	307.3967	2/22/2019	46.89986	2/22/2020	
2/23/2017		2/23/2018	174.5376	2/23/2019	33.09988	2/23/2020	231.1444
2/24/2017		2/24/2018	186.0377	2/24/2019	38.62722	2/24/2020	
2/25/2017		2/25/2018	426.2473	2/25/2019	31.19826	2/25/2020	
2/26/2017		2/26/2018	228.7511	2/26/2019	31.24275	2/26/2020	
2/27/2017		2/27/2018	197.5928	2/27/2019	31.07099	2/27/2020	
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3/2/2017		3/2/2018	144.0433	3/2/2019	28.60057	3/1/2020	
3/3/2017		3/3/2018	112.3786	3/3/2019	27.87808	3/2/2020	
3/4/2017		3/4/2018	187.8622	3/4/2019	34.78777	3/3/2020	
3/5/2017		3/5/2018	299.7736	3/5/2019	35.75442	3/4/2020	
3/6/2017		3/6/2018	202.9017	3/6/2019	27.83867	3/5/2020	
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3/8/2017		3/8/2018	172.8754	3/8/2019	32.74518	3/7/2020	
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8/6/2017	42.40637	8/6/2018	3.328377	8/6/2019	4.641916	8/5/2020	34.36026
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8/24/2017	71.00534	8/24/2018	3.018056	8/24/2019		8/23/2020	24.49396
8/25/2017	94.09647	8/25/2018	2.6373	8/25/2019		8/24/2020	21.32369
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9/1/2017	65.99775	9/1/2018	4.899612	9/1/2019		8/31/2020	51.40989
9/2/2017	61.85324	9/2/2018	3.255985	9/2/2019		9/1/2020	31.80881
9/3/2017	75.6844	9/3/2018	4.11694	9/3/2019		9/2/2020	37.56742
9/4/2017	101.5927	9/4/2018	6.571095	9/4/2019		9/3/2020	35.25605
9/5/2017	120.9402	9/5/2018	9.408962	9/5/2019		9/4/2020	50.04194
9/6/2017	153.1402	9/6/2018	6.502186	9/6/2019		9/5/2020	69.76121
9/7/2017	134.0824	9/7/2018	6.144491	9/7/2019		9/6/2020	78.16694
9/8/2017	204.209	9/8/2018	11.57403	9/8/2019		9/7/2020	54.74306
9/9/2017	173.3732	9/9/2018	14.62543	9/9/2019		9/8/2020	39.30465
9/10/2017	247.4299	9/10/2018	4.227069	9/10/2019		9/9/2020	36.51774
9/11/2017	193.7074	9/11/2018	5.005946	9/11/2019		9/10/2020	66.75331
9/12/2017	117.7221	9/12/2018	5.223669	9/12/2019		9/11/2020	47.16035
9/13/2017	114.2536	9/13/2018	7.784761	9/13/2019		9/12/2020	66.2188
9/14/2017	154.2498	9/14/2018	7.250365	9/14/2019		9/13/2020	38.47558
9/15/2017	230.1274	9/15/2018	7.053208	9/15/2019		9/14/2020	82.11281
9/16/2017	187.7603	9/16/2018	8.800192	9/16/2019	5.805784	9/15/2020	47.6835
9/17/2017	132.9187	9/17/2018	11.74163	9/17/2019	3.670194	9/16/2020	41.84292
9/18/2017	59.67015	9/18/2018	12.7436	9/18/2019	2.780528	9/17/2020	80.02509
9/19/2017	40.65778	9/19/2018	12.53839	9/19/2019	6.276867	9/18/2020	49.29035
9/20/2017		9/20/2018	10.9242	9/20/2019	8.012847	9/19/2020	56.9435
9/21/2017		9/21/2018	8.296246	9/21/2019	5.580833	9/20/2020	88.79993
9/22/2017		9/22/2018	7.267893	9/22/2019	4.888258	9/21/2020	48.573
9/23/2017		9/23/2018	11.86984	9/23/2019	5.588125	9/22/2020	33.41639
9/24/2017	76.81903	9/24/2018	17.86697	9/24/2019	6.047083	9/23/2020	6.913781
9/25/2017	121.6207	9/25/2018	19.21694	9/25/2019	2.367407	9/24/2020	7.325208
9/26/2017	131.8332	9/26/2018	17.16683	9/26/2019	1.653611	9/25/2020	35.81329
9/27/2017	129.6402	9/27/2018	19.75268	9/27/2019	2.183681	9/26/2020	58.31805
9/28/2017	132.9156	9/28/2018	18.30777	9/28/2019	1.899428	9/27/2020	90.20037
9/29/2017	70.88708	9/29/2018	17.61328	9/29/2019	2.401458	9/28/2020	93.05805
9/30/2017	45.52882	9/30/2018	19.54219	9/30/2019	3.203736	9/29/2020	92.61177
10/1/2017	57.41356	10/1/2018	22.23383	10/1/2019	3.971042	9/30/2020	97.5575
10/2/2017	46.76492	10/2/2018	19.53745	10/2/2019	6.264167	10/1/2020	101.0686
10/3/2017	73.27821	10/3/2018	22.01748	10/3/2019	7.197917	10/2/2020	99.44287
10/4/2017	65.91729	10/4/2018	23.21298	10/4/2019	6.40257	10/3/2020	102.9688
10/5/2017	78.34552	10/5/2018	20.47566	10/5/2019	5.819444	10/4/2020	100.6469
10/6/2017	94.93624	10/6/2018	17.4011	10/6/2019	6.341111	10/5/2020	109.3424

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10/8/2017	143.55	10/8/2018	20.62192	10/8/2019	6.858137	10/7/2020	148.2636
10/9/2017	122.4191	10/9/2018	19.32129	10/9/2019	4.008542	10/8/2020	143.9343
10/10/2017	145.6756	10/10/2018	20.34791	10/10/2019	5.409792	10/9/2020	156.4838
10/11/2017	143.964	10/11/2018	18.43579	10/11/2019	6.909306	10/10/2020	140.5777
10/12/2017	145.2709	10/12/2018	13.65523	10/12/2019	7.706319	10/11/2020	115.0196
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10/14/2017	144.8922	10/14/2018	15.27077	10/14/2019	11.17743	10/13/2020	117.892
10/15/2017	233.4825	10/15/2018	17.30012	10/15/2019	11.23083	10/14/2020	118.0019
10/16/2017	188.479	10/16/2018	17.22247	10/16/2019	10.99702	10/15/2020	142.5213
10/17/2017	222.6701	10/17/2018	20.02577	10/17/2019	10.12188	10/16/2020	141.0807
10/18/2017	223.955	10/18/2018	17.43676	10/18/2019	10.57451	10/17/2020	142.9164
10/19/2017	190.1036	10/19/2018	15.06072	10/19/2019	11.92186	10/18/2020	153.8165
10/20/2017	128.4867	10/20/2018	16.29258	10/20/2019	11.92453	10/19/2020	125.6822
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10/23/2017	245.133	10/23/2018	20.10417	10/23/2019	13.14623	10/22/2020	231.3726
10/24/2017	291.7214	10/24/2018	22.68618	10/24/2019	11.77831	10/23/2020	216.8798
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11/1/2017	190.4311	11/1/2018	22.98736	11/1/2019	13.57201	10/31/2020	310.0544
11/2/2017	343.0505	11/2/2018	21.53693	11/2/2019	13.63819	11/1/2020	389.8785
11/3/2017	337.5549	11/3/2018	19.2883	11/3/2019	12.96563	11/2/2020	262.6935
11/4/2017	116.0412	11/4/2018	43.60049	11/4/2019	14.18152	11/3/2020	139.9293
11/5/2017		11/5/2018	32.55336	11/5/2019	11.98833	11/4/2020	
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11/7/2017		11/7/2018	23.08641	11/7/2019		11/6/2020	
11/8/2017		11/8/2018	24.87896	11/8/2019		11/7/2020	156.7646
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11/12/2017		11/12/2018	24.36659	11/12/2019		11/11/2020	
11/13/2017	496.6983	11/13/2018	30.18764	11/13/2019		11/12/2020	
11/14/2017	336.7191	11/14/2018	34.26924	11/14/2019		11/13/2020	
11/15/2017	365.5651	11/15/2018	34.99229	11/15/2019	265.2491	11/14/2020	
11/16/2017	452.7401	11/16/2018	52.13829	11/16/2019	246.5282	11/15/2020	

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11/19/2017	375.0372	11/19/2018	30.74875	11/19/2019	276.113	11/18/2020	
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11/21/2017	391.1785	11/21/2018	51.68215	11/21/2019	321.1014	11/20/2020	
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11/23/2017	394.604	11/23/2018	34.7675	11/23/2019	392.1083	11/22/2020	
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12/2/2017	302.3181	12/2/2018	36.72826	12/2/2019	502.7135	12/1/2020	
12/3/2017	275.096	12/3/2018	34.86167	12/3/2019	539.1433	12/2/2020	
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12/6/2017	325.4507	12/6/2018	34.4024	12/6/2019	681.7087	12/5/2020	
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12/8/2017	218.6331	12/8/2018	30.48588	12/8/2019	655.0521	12/7/2020	
12/9/2017	287.2286	12/9/2018	29.53417	12/9/2019	334.4834	12/8/2020	
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12/11/2017	385.9405	12/11/2018	28.19354	12/11/2019	513.3574	12/10/2020	271.8746
12/12/2017	388.5845	12/12/2018	25.2884	12/12/2019	293.1798	12/11/2020	187.8857
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12/14/2017	537.0144	12/14/2018	33.00924	12/14/2019	73.95918	12/13/2020	259.2088
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12/17/2017	441.3077	12/17/2018	43.98171	12/17/2019		12/16/2020	368.2539
12/18/2017	416.4229	12/18/2018	36.0863	12/18/2019		12/17/2020	243.5743
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12/24/2017	430.5251	12/24/2018	43.05063	12/24/2019		12/23/2020	263.4747
12/25/2017	427.3426	12/25/2018	39.94262	12/25/2019		12/24/2020	273.7063
12/26/2017	413.5304	12/26/2018	33.41373	12/26/2019		12/25/2020	372.6738
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12/30/2017	343.0003	12/30/2018	36.91531	12/30/2019		12/29/2020	269.3755
12/31/2017	346.3913	12/31/2018	41.95455	12/31/2019		12/30/2020	283.1635
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